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LECTURES
ON
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BY
MR. YOUATT.

LECTURE XL.

THE MEMBRANES OF THE SPINAL MARROW —THE ORIGINS AND DISTRIBUTION OF THE SPINAL NERVES.

Of the compound spinal nerves, of which I spoke in my last lecture, there are thirty-six pairs. I find the first of them at the very commencement of the medulla spinalis; it is the *sub-occipital*, or, more properly, the *first cervical nerve*. It arises in the way that I have already described from the lateral furrow on the superior and inferior surfaces of the spinal chord; the fasciculi from the superior surface converging, and forming a ganglion—the fasciculi from the lower surface converging, uniting with the other beyond the ganglion, and the two trunks entering into one sheath, and forming one inseparable compound nerve.

The Membranes of the Spinal Nerves. The Dura Mater.—There are however some material differences between this compound nerve, and the only one, the fifth, which I have yet examined; and, glancing over the spinal canal, I perceive that these differences are common to all the nerves of the spine. I can trace on the spinal chord the membranes which envelope the brain, but there are some peculiarities about them which deserve my observation.

Within the cranium the dura mater adheres to the bone—it is the internal periosteum; it continues to line the cavity until we arrive at the foramen magnum; it adheres closely to the edge of the foramen magnum, and also to the upper edge of the foramen in the atlas which is the commencement of the spinal canal. That edge, however, being passed, it is no longer the internal periosteum of the bone; the spinal canal has a periosteum of its own, and a very singular and effectual one—a ligamentous as well as membranous one. The dura mater is perfectly detached from it, but continues to envelop and to protect the prolongation of the brain, and in a manner best suited to its altered situation and character. It is still a dense and firm membrane, but it has acquired an elasticity which it had not before.

The Interposed Cellular Substance.—It is still the proper investing membrane—the *theca vertebralis*; but the cavity in which it is placed admits of very great change of direction and caliber, and is composed of a succession of joints, which, during the waking hours of the animal, are in almost continual motion. The spinal chord must not be affected or injured by these changes; therefore, as I have said, the dura mater, now the *theca vertebralis*, is detached from the parietes of the canal, and there is interposed between it, and the bony circle around it, a reticulated membrane, some of the cells of which are filled with adipose matter, and others with serous fluid, and which, combined together, will form the most effectual resistance to any occasional concussion or pressure. From the delicacy of the membrane, so contrived that it shall adapt itself to every motion or change of form in the bony canal, it has a gelatinous appearance; the fluid which it contains, however, has not the slightest viscidity: and this fluid is enclosed in separate cells, that the lesion of some may not endanger the general safety of the chord.

The Inner Membranes of the Chord.—This interposition of membranous and adipose and aqueous matter would seem to afford a tolerably secure protection to the spinal chord; but, to render assurance doubly sure, there is a similar provision within the theca. The *arachnoid coat*, if such it be, is no longer a gossamer secretory membrane floating between the dura and the pia mater, but it too takes on a reticulated, cancellated structure; it is composed of innumerable cells, containing likewise a limpid fluid,

and performing the same office of defence; or, rather, completing, and that beyond the reach of common injury, the defence of the spinal chord.

The admirable contrivance of this Interposed Cellular Substance.—Now, Gentlemen, please to observe the effect of this. That portion of the spinal chord which assumes a somewhat vertical direction in the neck is suspended by a thousand elastic springs, and surrounded by a yielding elastic substance, which neutralise or annihilate every possible concussion, and which, in all the extensive changes in the direction of the neck, afford a security against concussion, with which no complication of springs of human contrivance will bear the slightest comparison. You see this yet more evidently in the horizontal dorsal part of the spine; there observe the action of the elastic suspensory chords or springs above, and the downy yielding, yet strong, illaceрable cushion beneath; add to this the elasticity gained by the cartilaginous, ligamentous structure and mechanism of the joints of the spine, and you have the most perfect illustration of benevolent contrivance of which you can form any conception. Compare the increase of this cellular interposed substance in the spinal canal of the quadruped in whom the rapidity and extent of the changes in the direction and caliber of this canal, whether in the natural motion of the animal, or the forced exertion which we sometimes brutally extort from him, require additional provision against injury—compare, I say, the relative proportion of this interposed substance in the horse and in the ox, both within and without the theca, and our subject is complete.

The Ligamentum Denticulatum.—This interposed cellular substance assumes a more condensed form at the side of the spinal chord, and is there closely connected with the pia mater within, and, by a line of *tooth-shaped* prolongations, with the dura mater without; hence it is termed the *ligamentum denticulatum*. It is not however any separate ligament, but a condensation of the arachnoid membrane or interposed substance, and which is thus deprived of its cellated structure and fluid contents. I need not point out to you the additional security to the spinal chord which this affords, by limiting the motion of the chord in a way which the extensible strings above and the elastic cushion below could not effect; and by giving sufficient firmness of attachment to prevent laceration of the roots of the nerves in sudden and forcible flexion of the spine. It passes in its condensed form between the superior and inferior root of the spinal nerves, being attached to the pia mater during its whole extent, and to the dura mater in the intervals between the perfect nerves.

The sub-occipital nerve, or *first cervical* nerve, or *first nerve of the spine*, arises, as I have described, at the very commencement of the medulla spinalis, and from the *lateral furrow* on its superior and inferior surfaces; while from this furrow its roots are referable to, and can be traced from, the *central column* above and below. The fasciculi from the superior surface are few, and comparatively large, and they unite and form, or pass through a ganglion; those from the inferior surface are smaller and more numerous;—(they err who speak of any definite number—that varies in different nerves and different subjects;) they are more superficial; more easily lacerable; they converge, unite, join the other branch beyond the ganglion, and then, escaping from the dura mater, we have the perfect compound nerve of sensation and motion. Having pierced the dura mater, it emerges from the spinal cavity through a foramen in the anterior part of the atlas; and no sooner is its escape accomplished, than it divides into two main trunks, which subdivide and ramify in every direction, and give the power of motion to, and bestow sensation on, the neighbouring muscles and parts.

The Anastomoses of the Nerves.—This is not the time to trace minutely the course of these, or of any of the spinal nerves. I shall have more satisfactorily to speak of them when we describe the various muscles and portions of the frame, and the nervous influence with which each is endowed. All that I shall attempt at present is a mere sketch of their origins, connexions, and ultimate destination; and for minuter information I would refer you to that admirable division of my friend Mr. Percivall's "Series of Elementary Lectures on the Veterinary Art," in which he describes the course of the spinal nerves. I shall scarcely dare to deviate from his very accurate description of them.

I would beg your attention to the evident fact of the compound nerves of the spine dividing into innumerable ramifications, and, more particularly, anastomosing with branches from the neighbouring nerves. This sub-occipital nerve has direct communication with the second cervical, the lingual, the recurrent, the glosso-pharyngeal, and the great organic nerves, and indirectly with the fifth, the eighth (portio dura), and almost all the cervicals. In the second cervical the direct and the indirect anastomoses increase, and they increase as we proceed down the frame, and not only between considerable branches of the nerves, but the minutest ramifications of them, and not merely a single anastomosis, but nu-

merous ones between any two given nerves. They meet—they separate—they reunite, they admit others into association—they coalesce with every neighbouring one—they extend the bond of union to distant nerves—to the most distant; in fact, the whole system is united together. We cannot unravel the entangled and matted fibres, but we have a clue to the nature and the design, and I would almost say, the simple arrangement of the whole.

The Sensitive Fibrils.—The nerves of sensation ramify into branches of extreme minuteness. It was necessary that they should do so—that they should spread themselves everywhere, in order that there should not be the minutest part of the frame in which they did not give warning of danger or injury. Their anastomoses probably are few; for it was necessary that the impression should be referable to the precise spot on which it was made, nor would it be consistent with the enjoyment of the animal, that any painful feeling should spread around, unless when the injury is extending and needs instant remedy. Yet we can conceive of minute fibrils of inter-communication between the sensitive nerves, in order to keep up a common feeling and sympathy of parts, and on which, in truth, not only the well-being of the system, but the proper action of every part depends.

The Motor Fibrils.—I can form a clearer conception of the anastomoses of the motor nerves. There is scarcely an action of the simplest nature that can be performed by the power of a single muscle. Many muscles must work together, and many nerves combine their influence, in order to its accomplishment. For the more perfect performance of this—to secure the consentaneous action of these muscles, the fibrils of the nerves by which they are supplied are brought together, and have inter-communication with each other. A certain nerve is not only given to a certain muscle, and there results only one contraction or action of that muscle, but the nerve spreads over the muscle, and enters into, and is diffused over, the substance of it, and, according to the part or division of the muscle on which its principal or only influence is bestowed, the action is evidently and considerably varied. I can conceive, therefore, the necessity of the anastomoses of minute branches, in order that by the co-operation of parts of various muscles, many complicated motions may be effected. He who has a perfect knowledge of the anatomy and function of the muscles, could without much difficulty trace out any seemingly complicated arrangement of nervous fibrils. But we shall have other nerves by-and-by with which to associate those of sensation and voluntary motion, and which will enable us more satisfactorily to account for the intricacy of their course.

Comparative Survey of the Cervical Nerves.—I return to the nerves of the neck, and I find no material difference in any of our patients, except that the three first nerves are proportionally larger in the dog than in the horse, because they have comparatively bulkier and more powerful muscles to supply, and which are so placed as to act with greater mechanical disadvantage than in the horse. In the ox they are rather less developed than in the horse, for the neck is shorter, although the muscles are large. The number of pairs, namely eight, is the same in all of them, considering the sub-occipital as the first. In our occasional patients—the domestic poultry—the number is greater, and varies in the different species; the common fowl has 14 cervical nerves, the duck 15, and the goose 16. The parrot, respecting which we are sometimes consulted, has 12, and so has the lark, the goldfinch, and the canary, and most of our imprisoned warblers; and in all of them the nerves are proportionally larger than in quadrupeds.

The Nerves of the Fore Extremities.—The sixth, seventh, and eighth cervical nerves, and the first dorsal, not only supply the muscles in their respective neighbourhoods, but a small branch of the sixth, and the greater portion of the three others, go to form a singularly complicated plexus of nerves, whence proceed branches to the external thoracic muscles, the scapula, and the whole of the fore extremity. The *external thoracic* nerve in the horse supplies the muscles of the breast and side, and even goes to the serratus and the latissimus dorsi, and the panniculus carnosus. The *scapular* ramifies on the muscles on the outer and inner side of the scapula, giving branches to the triceps, the teres minor, and the levator humeri. The *external cutaneous* nerve of the human being is not found, but the *spiral*, or rather a branch from it, and not from the *ulnar*, as asserted by Cuvier, supplies the place of it; while the *spiral*, and the *radial*, bestow nervous influence on the upper part of the extremity, and the *ulnar* on the whole of it, and with no other difference than occurs from the one phalanx of the horse, the two which constitute the foot of the ox, and the four that are found in that of the dog.

The principle of Neurotomy.—In the metacarpal and the plantar nerves of the horse, the ox, and the sheep, we have an interesting illustration of the distribution of the filaments of different function, of which the compound spinal nerve is composed. There are no muscles below the knee in these animals, and as it seems to be a law of nature that nothing is given which is not required,

we imagine that the motor fibrils cease to exist below the knee, for there they would be useless; and accordingly, in the operation of neurotomy, we destroy the sensibility of the foot, and relieve a noble animal from that torture which in various diseases of the foot our own ill management or barbarous usage had inflicted upon him; but we take away no muscular power, and no otherwise interfere with the action of the limb, than by giving some incertitude of motion and increase of concussion, which plainly result from the loss of sensibility in the part.

The Nerves of the Wing in Birds.—These spring from the last cervical, and the two first dorsal nerves. The plexus is more regular and compact than in the quadruped. The pectorals, as may be imagined when we observe the muscles of the breast in the bird, are of great comparative bulk, and there are four of them. Two nervous chords only are sent to the wing; the first, taking its course under the inferior surface of the wing, answers to the *spinal* and the *ulnar* nerves; the other, turning round the humerus to reach the superior surface, is the *radial* nerve.

The Dorsal Nerves.—We have observed the spinal chord enlarging at the inferior part of the neck, that the nerves which are to form the humeral plexus may be sufficiently developed. It now rapidly diminishes, and becomes little more than a round chord; but still a succession of nerves from above and below are given out from it, opposite to each of the articulations of the spine, yet with this singular circumstance, not existing however to so great an extent in the brute as in the human being, that while the origins of the cervical nerves are opposite to the foramina through which they escape, the posterior dorsal and the lumbar nerves spring from portions of the spinal chord anterior to these foramina, and increasingly so, and therefore they run a certain way along the side of the spinal chord, before they escape from the canal. Do they thus receive any minute filaments or influence from the lateral columns of the spinal chord? This is worth observation and inquiry.

The Intercostals.—There are eighteen pairs of dorsal nerves. They are smaller than the cervical nerves, and present fewer anastomoses, and even fewer ramifications; for there is less muscular substance to supply, and far less muscular action. Each dorsal nerve, as it escapes, devides into two branches. The inferior one, after giving a branch to the panniculus carnosus, and to the integument, shelters itself with the blood-vessels in a sulcus under the posterior edge of the rib behind which it escapes from the spinal canal; as it passes it gives minute ramifications to the muscle between that and the next rib, and then, in the anterior ribs, expands itself on the muscles of the sternum, while the nerves of the posterior ribs, after supplying the intercostal muscles, send their ultimate fibrils to the internal oblique and recti-abdominal muscles. These are plainly respiratory nerves, and we shall have reason to suspect that they proceed from, although they have not been actually traced to, the lateral column of the spinal chord. At all events, each intercostal nerve anastomoses with the great organic, and forms with it a ganglion.

The superior branch of the nerve turns upwards, becomes deeply buried in the muscles of the back, and gives filaments to the serrati, the rhomboides, the trapesius, the latissimus dorsi, the quadratus, the psoas magnus, the iliacus internus, the superior abdominal muscles, and, in fact, all the muscles of the back and loins.

Comparative View of the Dorsal Nerves.—The only important difference in the dorsal nerves of other domesticated animals is in their number, and that corresponding with the number of the ribs. In the ox, the sheep, and the dog, there are but thirteen; there are fourteen in the hog, and in the bird they seldom exceed seven or eight.

The Lumbar Nerves.—There are five lumbar vertebræ, and a corresponding number of nerves. The spinal chord is now beginning to enlarge. About the third lumbar vertebræ the increase of size is very evident. These nerves, as soon as they escape from the canal, divide also into a superior and inferior branch; the first going to the muscles of the loins, while the inferior one, as I shall have to show you when describing the muscles, is of great consequence. The inferior branch of the first lumbar nerve takes a long course over the transverse processes of the two next vertebræ to the iliacus, and along the muscles of the thigh, almost to the stifle. It has also, in common with every nerve of the spine, communications with the nerves next before and behind, and with the great organic nerve.

The second lumbar nerve is of more importance. It not only gives ramifications to the psoas and the iliacus, and extending even to the stifle, becomes the principal subcutaneous nerve of the thigh, but, passing through the abdominal ring, it dispenses nervous influence to the scrotum and testicle of the male, and the uterus, the pudenda, and the udder of the female. It even does more than this, it helps to form one of the nerves of the hind extremity. Of these, then, I must next speak, but it will be a hasty glance indeed that I can now take of them.

The Nerves of the Hind Extremity.—These do not arise from one common nervous plexus, as in the anterior extremity, the branches that issue from which it is difficult or impossible to trace to their true nervous origin; but the formation of the nervous chords can be satisfactorily followed to distinct plexuses, referable to particular nerves.

The second lumbar nerve contributes a branch, and the third and fourth the greater part of their substance; and the fifth a considerable branch, to the formation of the *crural* nerve. Its principal distribution is to the rectus, and to the internal and external vastus; while no mean branches go to the iliacus, and the psoas magnus, and the pectineus, and then becoming a subcutaneous nerve, it ramifies on the interior and forepart of the thigh and the leg, and may be traced as low as the fetlock. It accompanies the vena saphena in the greater part of its course, and should be remembered when we are bleeding from that vein.

The third lumbar nerve sends a branch to form the *obturator*; the fourth more largely contributes, and a smaller branch is derived from the fifth. This nerve, after a short course, passes through the foramen magnum ischii, gives branches to the obturator muscle, to the pectineus, the triceps, and the gracilis.

The fifth lumbar nerve detaches a branch to help to form the *sciatic* nerve; it receives a much larger one from the first sacral, and others from the second and third. This nerve quits the pelvis through the sacro-sciatic ligament, passes between the hip-joint and the tuberosity of the ischium, enters deeply into the haunch, and having given branches to the biceps, the semitendinosus and the semimembranosus, divides into the three *popliteals*. The first of these answers to the ulnar nerve of the fore extremity; the second feeds the gastrocnemii, the flexors of the foot, and reaches to the stifle-joint; and the third, after sending branches to the semimembranosus, the gastrocnemius externus, the flexor metatarsi, and the extensor pedis, pursues its way down the leg, and becomes at length a subcutaneous nerve, terminating on the pastern.

The fifth lumbar nerve sends a considerable branch to help to form the *gluteal*; but the main substance of it is derived from the first sacral. It is expended on the glutæus maximus.

I have no material difference to point out in the distribution or function of the lumbar nerves in our other domesticated quadrupeds.

The Sacral Nerves.—Besides contributing to form these nerves of the hind extremity, the sacral nerves are of no little importance. The *second* ramifies posteriorly among the muscles of the tail; the *third* gives branches to the muscles of the haunch; the *fourth* supplies the bladder, and rectum, and perinæum; and the *fifth* belongs to the muscles of the tail. All these are composed of branches of the inferior divisions of the sacral nerves, and which likewise communicate with the sympathetic nerve, and with those before and behind. The superior divisions, as in the dorsal and lumbar nerves, supply the dense mass of muscle above, or penetrate through it and become subcutaneous nerves.

The Cauda Equina.—The spinal chord had begun rapidly to diminish at the last lumbar vertebra; and at the second of the sacral bones it may be said to end. We can trace a little pyramidical point in the centre which is its apparent termination. This bulb, however, is surrounded by numerous nervous chords, forming at first a bundle of prolongations or large filaments more bulky than the chord from which they sprung, but gradually diminishing in size and in number, and ceasing altogether about the fourth caudal vertebra. The three last sacral nerves are formed from these chords, which like those from the spinal marrow itself are perfect nerves of sensation and voluntary motion. The sacral nerves, however, issue by two distinct foramina from the spinal canal; the superior penetrate at once into the muscles above; the inferior escape into the pelvis; but they are not nerves of different character or function, for after the motor portion had joined the sensitive and the compound nerve was formed, the first division took place *within the canal*, and both branches as they issued were true compound nerves.

The Coccygeal or Caudal Nerves.—There are four other pairs of nerves proceeding from these chords, and which escape from the four first vertebræ of the tail. They are also compound nerves of sensation and voluntary motion; they anastomose with each other, and keep up the chain of nervous intercommunication; but they have no connexion with the great organic which has here ceased to exist. They likewise divide into a superior and inferior branch; the superior connected with the erector, and the inferior with the depressor muscles of the tail, and both of them being also subcutaneous nerves.

And so ends our anatomical description of the spinal marrow, brief, dry, and somewhat unsatisfactory; but we should hereafter have had much repetition, if I had at present more fully traced the course of the different nerves. We are now prepared to return to the commencement of the spinal chord, and enter into the consideration of its lateral column, but this deserves a separate lecture.

FORENSIC CHEMISTRY.

ON THE DETECTION OF MIXED POISONS.*

By M. ORFILA, *Professor of Chemistry, Paris.*

For some years past the various scientific journals have contained instances of poisoning occasioned by mixtures of arsenic and laudanum, proto-nitrate of mercury, and verdigris; but as far as I am aware, no particular attention has been paid to the chemical questions involved in these discussions. I have deemed it my duty to study this subject with the greater care, inasmuch as it offered to my consideration many remarkable and unexpected phenomena. Several times, poisons, generally thought to exercise no decomposing action with others, have been so powerfully influenced by the mixture, that the ordinary re-agents failed in the detection of the individual substances, and only denoted the existence of the compounds which had been formed. I have indeed no hesitation in stating, that the most experienced operator would in these cases commit the most serious errors, did he not possess the data which form the basis of this paper. He might, for example, conclude from a given number of experiments, that an individual had been poisoned by a mixture of *arsenicous* acid and calomel, or metallic mercury, when the poisoning was the effect of *corrosive* sublimate and *arsenicous* acid, or he might suppose that a mixture of the peroxide of antimony, and proto-tartrate and proto-chloride of mercury had been employed, when in reality corrosive sublimate and tartar emetic had been given. These examples suffice to prove the importance of the essay I have undertaken.

I will, therefore, in the first place, point out the effects of the principal reagents on *mixtures* of the most important mineral poisons, in such case using concentrated solutions in varying proportions. I shall then consider the means of separating the several poisons composing the mixture; and where this cannot be accomplished, I shall at least be able to show the processes by which the nature and proportions of the metals and metallic oxides may be ascertained. My experiments have all been performed with perfectly *pure* reagents, and I allude to this the more pointedly, because on some occasions having employed reagents of *reputed* purity, I did not invariably obtain the results I have described. I also find it necessary to observe, that in the analytic departments of the experiments, I principally had in view the detection of the *nature* of the poisons, not devoting so much attention to the rigid determination of their proportions. For the latter purpose indeed, various modifications would be necessary in the processes I describe, modifications too which none but the most experienced could successfully practise.

* Annales d'Hygiene publique, &c.

MIXTURES OF CORROSIVE SUBLIMATE AND ARSENICOUS ACID.

Concentrated solutions of three parts of corrosive sublimate and three of arsenicous acid.—In this mixture *sulphuretted hydrogen* causes a dirty yellow precipitate with some black specks, being a mixture of the sulphurets of arsenic and mercury. *Sulphate of copper* precipitates the solution in greenish yellow, being a mixture of green arsenite of copper, and of the white precipitate occasioned by the excess of ammonia in the test in solutions of *corrosive* sublimate. The *nitrate of silver*, if acid, produces a white precipitate of chloride of silver, but if a little ammonia is added, the deposit becomes slightly yellow from the formation of arsenite of silver. *Caustic potash* furnishes a white precipitate which becomes black when an excess of alkali is added, while from *corrosive* sublimate alone a yellow would have been thrown down, and from arsenicous acid no precipitate whatever. The black deposit is metallic mercury and its black protoxide. From this it follows, that the arsenicous acid is changed into arsenic acid, while the corrosive sublimate is first changed into calomel, and then into metallic mercury. The following experiments prove this position.

If after washing the white precipitate it is allowed to dry on a filter, it will be seen to assume a pale yellowish colour. Treated by cold nitric acid, part is dissolved (the arseniate of the protoxide of mercury), and the solution is precipitated black by potass. The undissolved portion washed, dried, and heated in a glass tube, sublimes in the manner of calomel. If the liquor be examined in which the calomel and metallic mercury were originally formed, it will be found highly alkaline. If this be saturated after filtration, by pure muriatic acid, then evaporated to dryness and the product redissolved in water, a solution will be obtained from which *sulphate of copper* will throw down a *blue* arseniate of copper and *nitrate of silver*, a white precipitate of chloride of silver, mixed with red arseniate of silver. It follows, therefore, that potash occasions in this mixed solution of arsenicous acid

and corrosive sublimate this transformation of part of the arsenicous into arsenic acid.

Ammonia causes, with this mixed solution, a white precipitate. A *slip of copper* and the minute *galvanic pile*, composed of a slip of gold, and a leaf of tin rolled into a spiral, produce with the mixture the same effect as with pure corrosive sublimate.

Concentrated Solutions.—Three volumes of Sublimate and one of Arsenicous Acid.

Sulphuretted hydrogen furnishes a very dirty yellow precipitate, in the midst of which is almost instantaneously deposited some black sulphuret of mercury; *ammoniacal sulphate of copper*, a greenish yellow; *neutral nitrate of silver*, a white, very slightly yellow; *ammonia* a white ditto, soluble in excess of alkali; *copper* and *electric pile* act as with pure corrosive sublimate.

Concentrated Solutions of three vols. Arsenicous Acid and one of Corrosive Sublimate.

Sulphuretted hydrogen, a yellow precipitate speckled with black dots. *Ammoniacal sulphate of copper and nitrate of silver*, as before described, except that the green and yellow shades are more decided. *Potassa* acts as with solutions of equal parts of sublimate and arsenicous acid. *Ammonia* gives a white precipitate, soluble in excess of alkali. Copper and the electric circle act as on sublimate alone.

Analysis.—In the fifth volume of the "Archives Générales de Médecine," a case is recorded by M. Julié Fontanelle, in which an apothecary's apprentice swallowed a drachm of corrosive sublimate, mixed with three of arsenicous acid. Sublimate will be easily separated from arsenic by treating the powder by cold sulphuric ether, and agitating the mixture from time to time in a phial with a ground stopper. The sublimate alone is dissolved. The same remarks apply to the aqueous solution as to the powder.

(To be continued.)

FURTHER RESULTS OF

DR. AYRE'S TREATMENT OF MALIGNANT CHOLERA

BY SMALL AND REPEATED DOSES OF

CALOMEL.

To the Editor of THE LANCET.

SIR,—Having been applied to by several correspondents for information as to my further experience in the treatment of cholera by small doses of calomel, frequently repeated, and the results of it, I beg leave, in anticipation of such inquiries, to give through your journal a summary account of both.

Since the date of my last communication of the 28th of June, and published in your journal of the 14th ult, I have had ninety-nine additional cases, making the whole number 175. Of the first series of 76 cases, ten died; of the last series of 99 cases, 20 have died, making the whole number of deaths thirty. Of the 20 cases which terminated fatally, it is right to add, that seven of the patients were dying when I saw them, and for whom therefore I did not prescribe; and an eighth patient was lost by the nurse getting (drunk?)* and wholly neglecting to give the medicines. The twelve fatal cases which I did prescribe for, were all subjected to circumstances which might have been obviated, and which, as originating in the prejudices or poverty of the patients or their friends, would be guarded against by persons in a better class of life. And it is necessary to notice these circumstances; for in estimating the merit of any given mode of treatment, they must be taken into account; for other things being equal, treatment that proves beneficial, or appears to do so, to one patient in this disease, should be so in another, and if it be otherwise, it must be owing either to something essentially wrong in that treatment, or to causes which are foreign to it and control it.

In my former letter already referred to, I noticed the causes which influenced the issue of the ten fatal cases, and I shall now do the same with respect to those which occasioned in the twelve the same result.

Of these patients, the first two were a man and his wife. The man, who was about fifty years of age, and was first attacked, had long been of drunken habits, and latterly very destitute. He was pulseless when first seen, but recovered from this state, and struggled on to the sixth day, when he died. His wife, who watched him through several nights, became exhausted by fatigue, and grief, and want, and being seized by the disease, was taken to a hospital (but through mistake to a wrong one), and, losing sight of her for several hours, I found her in a state of irretrievable collapse.

The third case was that of a poor woman, residing, at the time, alone, who, having been seized with the disease in the night, kept her door locked, that her neighbours might not gain access to her and discover her state, as she was reluctant to have any advice. She was pulseless and nearly dying when I saw her.

The fourth case was a very dissolute woman, who was drunk and fighting on the evening preceding the night of her attack, and was twelve hours in collapse before I saw her.

* Our correspondent has here left out a word.—ED. L.

The fifth and sixth cases were aged men, who were seized early in the night, and for whom no assistance was sought until the morning.

The seventh patient was a young woman who, after recovering from a most severe attack of the disease, relapsed into it from eating too hearty a supper at the house of a neighbour, and who sank at the end of a fortnight, from exhaustion caused by a miscarriage, which the second attack of the disease had induced.

The eighth case was a watchman, whom I was requested by Mr. Sharpe to see with him. He was brought out of the collapse, and appeared during several days to be recovering, when, unknown to us, he had ginger beer and other improper things given to him, and he died from an inflammation in the mucous lining of the first passages.

The ninth case was a young married woman, who, after exerting herself with great humanity and activity in her gratuitous aid to the very numerous sick of her neighbourhood, became herself the subject of the disease, and at length the victim of it. I saw her early in it, and she had become convalescent; when, being hungry, and having no other food, she ate the half of a flour-and-water dumpling, relapsed in the night, and in the morning when I was called to her, she was pulseless and dying.

The tenth case was a poor stranger, who had been many days almost without food, and who worked through a whole day in a hay-field with the disease upon him, and was brought home in the evening pulseless.

The eleventh case was a child three years of age, who had nearly recovered after being in a state of extreme collapse, when all her attendants became ill, and incapable of duly attending to her, when an affection of the head came on, which speedily terminated in effusion.

The twelfth case was the grandfather of the above, who, with his wife and daughter, became affected with the premonitory symptoms, and who, from my omitting to join calomel with the other preventive means, fell into the true disease in the night, and in the morning at my visit he was dying. The wife and daughter by the calomel treatment were secured from its further progress, or perhaps, to speak more correctly, they were relieved from a mild and incipient attack, which indeed was the case with a great number whom I prescribed for, and whom I did not report to the Board of Health.

Such, then, are the cases which I have lost, and which differ in nothing from a very large proportion of those which have recovered under the treatment I recommend, excepting in the extrinsic circumstances which I have detailed. All the patients had passed into the stage of collapse, and many had been in it several hours before I was called to attend them. A few only had passed through it into the consecutive stage, and these were of the milder form, and chiefly of late occurrence, and in whom the cramps were principally confined to the abdominal muscles, and the dejections tarlike, with pain on pressure in the *epigastrium*, or about the head, with the other symptoms of that state.

In regard to the treatment, the same methods, precisely, have been pursued in the last series of cases as were described and recommended in the treatment of the former ones. The calomel has been given nearly uniformly in single grain doses, made into exceedingly minute pills, with bread crumb rubbed down into a mucilage, and mixed with a little gum, and given with one drop of laudanum in a teaspoonful of water every five or seven minutes, for one, two, or three hours, or longer, as the urgency of the case demanded, widening the intervals of giving them as the urgent symptoms subsided, and discontinuing the laudanum. No other limit was found necessary to be set to the quantity of calomel given, than that which the circumstances of the disease imposed, nor was any fear entertained that the medicine would affect the mouth; for pending the duration of the collapse, no absorption of the medicine will take place. By one patient, a young woman (Rosanna Curry), whom I had a few days ago in the hospital, and who had been, some time before I saw her, in the stage of collapse in its most malignant form, no less a number than 300 grains of calomel were taken, and two-thirds of them retained; and who, notwithstanding the extreme severity and obstinacy of her disease, and the quantity of calomel taken, was well, and discharged from the hospital, in less than ten days, and without any material soreness of the mouth.

In my former letters I dwelt upon the necessity of resorting early to the antiphlogistic treatment upon the passing away of the stage of collapse, grounding my belief of its importance on the theoretical view I took of the nature of the disease. My experience since, in the disease itself, has fully confirmed the view I took of it. Early leeching of the *epigastrium* on the first rise of the pulse beyond its natural standard, is always to be effected, if possible, and leeches should always be left in the evening with the attendants, to be applied in the night, if necessary, that no time may be needlessly lost. Of not less importance is care in the choice of the food for the patient. Rice appears most suitable with thin broth, and bread and flour, meat, and all acids, most injurious; wine is rarely required. The patients often desire to have it, and in the

early cases of the disease I granted it to relieve their weakness after they appeared to have got through it, but I am now convinced that it was injurious to many, and I doubt if it was beneficial to any; and latterly I have never allowed it.

In conclusion I have only to add, for the information of those who may hereafter have to treat the disease (for those who have seen it cannot want the information), that in the treatment of the disease, and to render that treatment efficient, it is necessary to submit to the toil of almost hourly visits to the patients; for such is the imminent character of the disease, and the extraordinary rapidity of its course, that the slightest intermission of the treatment may prove an irretrievable loss to the patient; and indeed his imminent danger is akin to the condition of a drowning man, and the obligation of the practitioner is scarcely less than that man who holds within his hand the means that are to rescue him. I am respectfully yours, &c.,

JOSEPH AYRE.

Hull, Aug. 11, 1832.

CASE OF

TIC DOLOUREUX.

By W. DOBSON, *Esq., Surgeon, Pimlico.*

Mr. P——, ætat. 65, a tall plethoric man, had enjoyed uninterrupted good health until about nine years ago, when he was attacked by tic douloureux in the right side of the face. He attributed the accession of this malady to adverse domestic circumstances. The affection has progressively increased, both in the intensity of the paroxysms and the frequency of their occurrence. Numerous remedies had been employed, and various plans of treatment adopted, but all equally unsuccessful.

All the pathognomonic symptoms existed, and as violent as imagination could conceive them. The ordinary excitants were, eating, drinking, speaking, and touching the parts. The pain resided in both maxillary nerves, but especially in the superior, the whole cheek exceedingly sensible when touched, particularly around the emergence of the superior maxillary nerve, from the foramen infra orbitarium. During the most urgent paroxysm no discoloration of the integuments was perceptible. The muscles of that side were flaccid, and the cheek more prominent than the other. Restless nights from pain; intense mental anxiety; torpid bowels, defective appetite, and all the phenomena exhibitive of severe alimentary disturbance. After the intestinal canal had been regulated by aperients, carbonas ferri, in doses of from ʒij to ʒvj, were exhibited three or four times a day, and hydrarg. submur. gr. ij sing. noct., until the mouth became slightly affected. Still, after the elapse of some weeks no relief was obtained. Various remedies were subsequently used, ex. gr. quinine, carb. ammoniæ, camphor, opium, hyosciamus, ext. humuli, and ext. belladonna, applied extensively to the pained parts, in short, every antispasmodic and narcotic medicine was prescribed, without either removing the disease or alleviating its severity. Liq. arsenicalis was now commenced with, and with a full determination to give it a fair trial, by pushing it as far as the system would permit, beginning with the dose ♏v, and increasing it to ♏xxxv ter die, at the expiration of which time decided benefit was obtained; the paroxysms were less frequent, of shorter duration, and less violent; but the medicine was obliged to be discontinued in consequence of the accession of gastric irritation—muscular tremors and twitchings. Gentle aperients were in the mean time administered. In a few days the arsenical solution was resumed, commencing with only ♏x ter die, and gradually increased. In six weeks from the commencement of giving this medicine every symptom decidedly mitigated, and in two months had entirely vanished. It is now three months since the drawing up of this case, and as there has been no return of the disease, we may presume that it is eradicated, and by the agency of *arsenic*.

August 6th, 1832.

EFFICACY OF THE PLUG IN

UTERINE HEMORRHAGE.

To the Editor of THE LANCET.

SIR,—July 2nd, I was called to see Mrs. Merser at Queenborough, who was at her full time of pregnancy, and expecting every day to be confined, when I found her labouring under hemorrhage to an inordinate degree, which had been the case for four days antecedent. She has had four children before, with no extraordinary circumstance attending the delivery of them; but on this occasion received news which greatly alarmed her, and caused her to jump off a place some few feet from the ground, when something tore from her side, according to her description. Upon examination per vaginam, I found the orificium uteri dilated to the size of half-a-crown: no pains, but a protrusion of a detached portion of the

placenta. The hemorrhage being excessive, and uterine action not having come on, I determined on the application of the plug, and accordingly disposed of one between the detached portion of the placenta and the head of the fœtus, enjoining strict quietude, and cooling diluents. I consider in such cases, that it is better to suppress, if possible, the hemorrhage, to allow the exhausted frame to recover itself, than to endeavour to bring labour on, either by manual operation or medicinal means. Circumstances obliged me to leave her, and I was called again in about six hours. On my arrival I found her suffering under an inability of passing water, which caused pain, and led her to suppose that labour was commencing. Conceiving that the pressure of the plug was the cause, I removed it, when she made water freely, and all unpleasant symptoms being, consequently, removed, I found things on examination just "statu quo," saving that the hemorrhage had entirely ceased. I then left her once more, and four hours after, my attendance was again requested. She had had no return of hemorrhage until about an hour before I arrived, when it came on to a most alarming extent. I found more protrusion of the placenta; the head of the fœtus descending into the pelvis; slight labour pains; and the membranes exceedingly tough. From her exhausted state, consequent upon previous loss of blood, I apprehended serious results, and finding no time to be lost, immediately lacerated the membranes, when the labour came on more satisfactorily; but the detached portion of the placenta became a material obstruction to the progress of the labour; I therefore resolved to endeavour to force the placenta back into the uterus, which happily was effected, but exhaustion and hemorrhage increasing, I found it necessary to keep her up by the administration of gruel with brandy, and sent off for the assistance of Dr. Jardine. However, on the return of the placenta, labour came on rapidly, and nature effected her purpose before his arrival. Now the hemorrhage was suspended for nine hours by the application of the plug, but for which, in my opinion, she must have inevitably perished.

I am, Sir,
Your obedient servant,
J. R. Hancorn, Surgeon.

Sheerness, August, 1832.

EMPLOYMENT OF THE

NITRATE OF SILVER

IN

VAGINAL DISCHARGES.

To the Editor of The Lancet.

Sir,—Having perused with much satisfaction the clinical remarks of Dr. Elliotson in the last week's Lancet, on the use of the nitrate of silver in a case of inflammatory leucorrhœa, I am induced to solicit the favour of a small space in your journal of next week for a few brief observations on the same subject. In the preface to my work on leucorrhœa, which has now been before the profession nearly two years, I there stated, that "whether the mode of practice I have slowly and cautiously adopted, and which is a novel one, at least in this country, will prove so successful in other hands as it has in mine, time and experience alone can determine." It is, therefore, with no little degree of pleasure that I find the practice not only adopted, but, after repeated trials, approved and recommended by so distinguished a member of the profession as Dr. Elliotson. It must be admitted, that in the cure of disease, and before any remedy can be employed upon anything like sound principles, a strict pathological inquiry is of the highest importance, but probably in no other disease is it more urgently demanded than in the different varieties of vaginal discharge. The pathological view which I have taken of leucorrhœa is, that for the most part it is a disease of increased action, and not one of debility and local relaxation, as is too generally believed; and I find my opinion materially strengthened by the judicious remarks of the gentleman alluded to, and the successful result of the remedies employed. In the use of the nitrate of silver in solution, a decomposition necessarily takes place when the pewter syringe is employed. To obviate this defect, often complained of, and knowing that the common straight instrument is a very inefficient one, a bone syringe has been made by my directions, and can be procured at any of the surgeons' instrument makers, somewhat upon the principle of the one commonly designated Clarke's syringe, which answers the purpose exceedingly well. I have seldom employed a solution so weak as that recommended by Dr. Elliotson, although I quite agree in the propriety of commencing its use with caution; at the same time I have scarcely ever found a strong solution to occasion much uneasiness or pain, certainly not more than is occasionally experienced

in the use of the common astringents. Before I conclude, permit me to remark, that having been nearly seven years a public teacher in this metropolis, the author of the work alluded to, &c., a little more courtesy might have been expected from a gentleman so justly eminent as Dr. Elliotson, upon the introduction of the subject to the notice of his clinical class.

I have the honour to remain, Sir,
Your obedient servant,
GEO. JEWEL.

Sackville Street, Aug. 14, 1832.

VACCINATION.

To the Editor of THE LANCET.

SIR,—The only remark I have to make at present regarding vaccination since the publication of the preceding ones already detailed in the former Numbers of THE LANCET, is with regard to the *thinness* and *thickness* of the skin of the arms of the children vaccinated; and the care to be taken by the operator in inserting the virus.

During the numerous vaccinations carried on by me for years past in the Public Vaccinating Establishment of Scotland, in making incisions into the arms of the children for the purpose of introducing the vaccine virus with the round-pointed vaccinating lancet, which I invariably make use of (as formerly mentioned), I have at times found the skin as thin as gauze paper or gold-beater's leaf, and turgid with circulating blood, which I most remark is rare, but occasionally presents itself; and drops of blood, following each other in succession, wash out the inserted virus, rendering the inoculation ineffectual.

In other infants, on the contrary, of the same age, and under the same circumstances, I have found the skin of the arm *thick*, like a piece of parchment, and not the slightest appearance of blood to be observed, until the lancet, by repeated scratches, had penetrated to a considerable depth in introducing the virus. Betwixt these two extremes, I have met with every gradation.

In consequence of possessing a knowledge of the above facts, I conclude that the vaccinator should always be on his guard whilst inserting the virus, lest the skin should prove *thin*, as already mentioned, a circumstance which no individual can tell beforehand, and if so, blood will follow upon the slightest scratch of the lancet, washing away the virus, rendering the future vaccination useless, running down the arm, proving discreditable to himself, and hurtful to the feelings of the mother. Should the skin prove thick, as already alluded to, I consider it as an advantage allowing of the free and slow absorption of the vaccine lymph, and proving of no consequence in any other point of view. I am, Sir,

WM. HOWISON, M.D.
Vacc. to the Royal Disp. Edinb.

9, Nicolson Square, July 19, 1832.

PROPOSAL TO USE THE

SERUM EXTRACTED FROM COW'S MILK,

INSTEAD OF THE SALINE SOLUTION,

For the Purpose of Injecting the Veins of Patients in the last Stage of

MALIGNANT CHOLERA.

To the Editor of THE LANCET.

SIR,—There cannot be any doubt now, that cholera originates from inhaling a certain aërial poison during respiration; that it manifests itself by a specific influence on the function of secretion, both in the stomach and bowels, accompanied by other symptoms of less importance; that the fluid secreted is sufficiently copious to drain in a few hours so much, from the vascular system, of the serous part of the blood, as to impair, and at length destroy, the means of circulation altogether. In cases of cholera asphyxia, death appears to be the immediate result of the influence of the poison imbibed; but in the more usual form of cholera, such as occurs in England, death cannot be considered the immediate effect of the poison, but of the deficiency of the fluid part of the blood; it has therefore been proposed to inject a weak solution of salts, in order to supply this defect; however, this fluid, although, according to chemical analysis, it is the same as the serum of the blood, is evidently such a crude imitation of a vital fluid, that it is wonderful that it should have proved successful in any case; but since it has, and in the last stage of the disease too, when no means are admitted to avail as a remedy even by the most experienced in India, it certainly becomes the duty of every one to resort to the only plan which offers any reasonable chance of success. In fact, in a stage of the complaint where there is all but a bloodless state of the vessels, and a pulseless circulation, what other indication is left than to restore the circulation if it be possible? This has been done, and repeatedly. Yet, because it has more often failed than succeeded, it is falling into disuse, as if it were to be expected that an operation of this kind should be always successful on the first attempts of different

practitioners, and with instruments not exactly suited for the purpose. Maw's apparatus is by far the easiest to use, and requires two persons only, while the others require three.

The object of this communication is to propose the use of serum instead of the saline solution. The superiority of this substitute is too apparent to need comment. The best mode of procuring it is from cow's milk, which can be readily obtained in any quantity, and may be deprived of its caseous substance in the following manner. To every quart of milk made hot, add eight grains of rennet (the gastric juice of the calf); as soon as the curd ceases to be separated, it may be strained and brought to the proper temperature for use; if it should be thought necessary, this might be further cleared of a small proportion of caseous matter yet remaining in solution, by adding to it the white of an egg beat up in a wine-glassful of the serum; or a few grains of tartaric acid, then boiling and straining it; however, this latter process would probably not be necessary.

I have had but one opportunity of trying the injection into the veins, which was performed under unfavourable circumstances, being hurried as to time; the milk was merely boiled once, skimmed, and strained, which deprived it of but a very trivial portion of its caseous substance, and not sufficient caution was observed to prevent the injection of air with the milk. The effects were, at the time, a sensation of nausea during a few minutes only, with this slight exception, the patient was tranquil until her decease: the profuse cold perspiration ceased, and the skin became warm, and remained so; the pulse became apparent at the wrist. She died between two and three hours afterwards, and, upon examination after the lapse of fourteen hours, the temperature within the pelvis was 89°; there was no reaccumulation of the lympid fluid, either in the stomach or bowels, which generally occurs after the injection of the saline solution; the blood was fluid in the heart and large vessels; there was no appearance of coagulum, or of curd; the case, in all other respects, was the same as usual, whether before or after death.

Being convinced that nothing but perseverance is wanting to render the injecting plan more effective, I should be obliged to those who have gratuitous patients with cholera, to let me attend; but from other engagements, I cannot afford the time which these cases demand, to allow me opportunities of putting this practice fully to the test. I am, Sir, your obliged servant,

H. SEARLE.

8, Dean's Place, South Lambeth,
Aug. 10, 1832.

REMARKS ON THE

DISINFECTING POWER OF HEAT,

As an Agent for destroying Contagion or Pestilential Miasmata;

AND ON THE

SALINE TREATMENT OF CHOLERA,

Plague, and Malignant Fevers; and on the Use of Opium, &c., in such Disorders.

By J. HANCOCK, *M.D., London.*

IT has been with some surprise that I have observed, that the disinfecting power of heat is regarded by gentlemen of science as a new discovery. I considered it a very common and prevalent idea, and recollect seeing the method employed, many years ago, on clothing, which had been worn by persons in small-pox, being smoked and *roasted*, I might say, by nurses, before a strong fire, for the purpose of destroying infection. I do not say this to invalidate the experiments of Dr. Henry, who, it may be said, "improves whatever he touches." I have seen the same alluded to, or directed, I think in the old French Encylopedia, and other works, which I cannot now call to mind; but I may refer, on this subject, to the letters of Dr. Lobb, addressed to Martin Folkes, Esq., president, and read at the meetings of the Royal Society, 1743-4. From these I beg leave to give a brief abstract. "I will take up no more time," says Dr. Lobb, "at present, than to mention two methods for removing the *pestilential particles* from *infected goods* or apparel, which may prove both effectual and expeditious. One is by airing them before *brisk fires* made in chimneys;" and he conceives that, "as water is carried off by heat, so the pestilential particles also, which are more volatile, must be speedily removed by the action of heat from infected goods; that although simple exposure to the air would in time effect the same purpose, yet the means proposed *by heat* is likely to do more in one hour, than the other in several days." On the same principle he recommends, that persons who have been exposed to the *fomes* of pestilences, should take the earliest opportunity of approaching a brisk fire, turning round before it to get rid of any infection received in their garments. This, he thinks, deserves the attention of all who have been exposed amongst the sick.

The other method of disinfecting is, by boiling all such articles as may not be spoiled by the process, by which means, as in the application of *dry heat*, the pestilential particles will be carried up the chimney; for he believed the miasma is not

destroyed or decomposed, but driven off by heat. *Lobb on the Plague*, p. 48—51; and this opinion would seem to have been borne out by experiments on small-pox, as cited in *Lyon's Treatise on the Prevention of the Plague*, where it is stated that the smoking of infected clothing conveyed the infection of small-pox to some distance, denying that fire will destroy the pestilential miasm, if confined, but he believes it extremely evanescent on the approach of heat, p. 359. I may observe that this book of Dr. Lobb, although abundantly mingled with the superstitious philosophy of his day, contains much sound sense and useful information, and that his pathological opinions are rational, and rather superior for one of his time.

It would appear that, in earlier times, ships, merchandise, and all, were frequently burnt to get rid of contagion, but the good Dr. Lobb, conceiving the *pestiferous particles* may be thus disseminated in the air, proposes another measure equally rational and efficient—that of "*sinking* the infected ships to the *bottom of the sea*! and burying infected goods deep in the earth," which, he says, is likely to prove very effectual for preventing the propagation of *pestilence*!" See p. 366. This would put out of countenance, perhaps, even the most zealous and froward advocates for contagion and quarantine of the present day. The fact seems to be that, in those days, they actually believed in the vagaries which are now known, and acknowledged by most honest men, to be set up as mere *scarecrows*.

Although this author regards the great plague of 1665 to be so very contagious, there are many passages he has cited from the *Journal of the Plague*, which would seem like facts intended to prove quite the contrary; he says, that "through the whole course of the plague, there died in this great city and liberties, but two aldermen, five physicians, thirteen surgeons, and sixteen clergymen, which, considering their numbers, shows very manifestly God's special grace and protection of persons in the discharge of their duty;" and the author of the *Journal*, who appears to have been an honest and impartial man, says that charitable women, "pious ladies," went about distributing alms, visiting the poor sick families in their infected houses, and that none of these suffered from it!

I may take the opportunity of citing here certain old authorities which tend to show that the famed *saline practice* in malignant distempers is not altogether so *fresh* as many seem to imagine, and would beg leave to suggest, that the reclamations of gentlemen lately put forth, respecting the *priority* of the *discovery*, appear to be founded on the mistaken view of its being a new discovery, instead of a *revival* merely of former practice and opinions.

Hippocrates gave salt, sulphur, and wine, in the plague; and Van Helmont says, that the vital spirit is salt, not sour; and further on, that the *vital* spirit is *arterial blood*—an assertion not less true in his time than since it was pronounced by John Hunter! Why should we consider the opinions of the moderns as preferable to the *same* expressed by the ancients? He observes too he has found that *arcanums* do operate as *salts*; "that hurtful matters are removed by resolving, cleansing, expelling, &c., which properties are agreeable unto salts." *Oriatrike*, p. 195-6, and at p. 733. "The vital spirit is plainly salt, therefore balsamical, and a preserver from corruption." Salem esse *antidotum prastantissimum*, tam ad preservationem, quam ad *curationem*. *Angenius*, lib. 9. *Joubertus*, tractatas *De Peste*, cap. 13. And according to Wittichius, the inhabitants of the island of Malta made use of salt as a *preservative and most efficacious remedy* against the *contagion of plague*. And thus Brudus Lusitanus (lib. 3. cap. 19. *De Febr.*):—"Sal esse efficacissimum preservat. ac curat. in peste, et refert chirurgum quendam in anglia esse *piscibus salitis* peste laborantes feliciter nutrire."* This antidote to pestilence may be ridiculed by some, but without drawing any inference, it might be remarked that the negroes in the colonies who eat much salted fish, are rarely attacked with pestilential or malignant fevers, to which the lower ranks of society are most obnoxious in Europe; and furthermore, that certain non-medical persons in Martinique, who had charge of patients in yellow fever, assured me they had found the greatest advantage in the use of *sea-water*, both by the mouth and by frequent ablution, applied at various temperatures, such as seemed most agreeable to the patient's feelings, and that it rarely failed if seasonably resorted to.

Such considerations give additional weight to the reports of Dr. Stevens, and the recent modification of his plan by means of *venous injection*, which modification, however, can hardly be entitled to any preference, and is not likely to be fully established in practice, since it has been found, that the operation of remedies is nearly identical, whether exhibited by the mouth or by venous injection, as proved by injections of tart. ant. and other emetics, cathartics, &c.

Experiment is certainly the touchstone of truth; but until the contrary be proved, I should consider the probability to be in

* Diermerbroek de Peste, p. 170. Lobb on the Plague, p. 255.

favour of Dr. Stevens' method, along with the external use of salt in *baths*, as just noticed. In the yellow and remittent fevers of Demerara, we frequently employed *cold affusion* (of fresh water), but it never occurred to me to try the *salt* water baths,* or salt in any form, not at least as a *chemical alterative* agent, or for the purpose (as technically expressed) of *decarbonising* the blood. From all I have learnt here and in South America, I cannot but regard this problem as one of the utmost importance, and heartly join in the recommendations, so powerfully urged in THE LANCET, for the fullest possible investigation as to the real merits of *saline* treatment in malignant fevers, cholera, &c., and at the same time I would beg leave to hint, that from the hypercatharsis induced by the salts, it becomes especially necessary to guard their operation by restringents, and especially opiates, which are of the utmost avail in maintaining the force of the circulation, and the vital power, in the cold and collapsed state, which often characterise those disorders.

In addition to the foregoing it may also be observed, that as antidotes to the poisoned wounds, there are none, perhaps, more generally useful than common salt, (mur. of soda), and the great use of sal prunel. (nitr. potash) has long been recommended in putrid and spotted fevers, plague, and cholera, as also in leprous and scorbutic affections, putrid sore throat, &c.

Unfortunately, amidst a vast farrago, the most valuable remedies are overlooked or neglected at the onset of disease, when they might be efficient: and here I consider it most unfortunate that the use of opium is so little appreciated, and that its due application is so misconceived:† those who have tried full doses at the onset of putrid diseases have seldom been disappointed. Although many, from mistaken theories and false *indications*, are led to condemn the use of opium, excepting in the decline of the malady, it must be remembered that remedies become in a short time unavailing after the attack of malignant distempers, such as cholera, camp-dysentery, putrid fevers, &c. When such prevail, an opiate pill or potion ought ever to be kept in readiness to be swallowed at the instant that symptoms are approaching. After the disease is fixed, or the blood has lost its spring and mobility, or, retiring from the surface, stagnate, in the great vessels, medicine has little effect. It is not the choice of the weapons merely, but their ready employment, which must guard against the inroads of an insidious enemy. This matter, and the powers of nature, being duly considered, we discover why so many remedies get a reputation, and why some persons find one remedy to succeed, and some another. But, with respect to the use of opium, a pernicious idea prevails, that, in most diseases, although marked by excessive prostration of strength, yet that opium must be avoided till re-action flags, or the powers of life are fast declining: it is a fact not generally recognised, that the powers of opium are most pre eminently efficient in the stage of depression, or at the very onset of those malignant distempers. Yet the golden moments and hours are often cast away in waiting for *medical assistance*.*

In the treatment of such untoward diseases as spasmodic cholera, jail and putrid fevers, so called, it is ever desirable to take advantage of a union of powerful remedies. The cordial and exhilarating effects of opium, are greatly exalted, and rendered more permanent, whilst its narcotism on the brain is corrected, by taking, soon after, a cup of strong coffee, or a glass of brandy or other spirit. By these means I have often known inveterate agues subdued, both in my own person and in others; some of which, too, in the Orinoko, were of a very malignant kind. It may not be out of place to mention here, that on one occasion (in Stabroek, now Georgetown, Demerara) I had for some months suffered under one of the most obstinate intermittent fevers, in which the fullest trials of the bark, arsenic, &c., had proved unavailing. On the fit approaching one day with severe rigors, I took 100 drops of laudanum in a glass of punch, and, soon after, a cup of strong coffee, covering myself warm in bed; the cold shivering soon ceased, and a warm perspiration came on. I slept for a short time, an hour or two perhaps, when I awoke in a profuse perspiration, quite free from fever and all uneasy sensations. At

* The water of the coast of Guiana is muddy, and brackish only, and is therefore seldom thought of for domestic purposes.

† It is curious to observe the inconsistencies of certain medical writers, who, at times, would seem to be utterly ignorant of the action of remedies. One gentleman has lately set forth *experiments*, which are termed the results of cholera cases, treated *chiefly* with *corrosive sublimate* and *acetate of lead*; these with half a grain of p. opii, and some other remedies he administered every *half hour*, but having no effect, he increased the dose of opiate power, making it *two and a half grains every half hour*. On this the patient rallied, and from a hopeless state of collapse recovered most rapidly. Such were the happy results of "Cases of cholera morbus treated *chiefly* by *corrosive sublimate* and *sugar of lead*." No doubt the statement is a faithful one; the result indeed is what might be expected from the use of opium given every half hour. We thus see the most valuable remedies pass for nothing, and daily reported to for no other purpose than to support the fictitious claims of the most useless ones.

* Along with the opiate, or presently after, a few grains of calomel may be given, and saline diaphoretics, as nitrate of potash or ammonia, effervescing draughts; as also sudorific tisans, made with equal parts of rue, sage, mint, and hyssop.

the next return I was prepared to take the same course, but found no occasion for it. I had no return of ague for years afterwards. It is only by *additions* to opium that we can rationally expect to improve its virtues and modify its narcotic effects. The *learned* will before long, it is to be hoped, learn better than to waste their time in fruitless speculations on morphia and narcotine.*

If therapeutical indications are demanded, it is impossible to adduce stronger ones than may be offered for the employment of opium in cholera—a disease marked by excessive declension of the vital powers—the *pulse*, strength, and natural heat, failing, with colliquative sweats, diarrhœa, spasmodic pains of the bowels, and of all the muscles of the body; for all which affections opium is the most direct resource, if not the only one worthy of confidence; yet it is surprising to hear some gentlemen assert, that the necessity for opium appears not to be indicated in cholera. Again, the blood in this disease is found to be thick and grumous, as fully proved by dissections: it is generally supposed to be rarified and attenuated by opiates;† this is inferred from the great and full, though soft and slow, pulse, induced by a full dose; and it is asserted, that in Turks and Indians slain in battle whilst under its influence, the blood has been found in a fluid state for a day or two after death! (See Geoffroy Mat. Med.) Opium has long been esteemed as the most advantageous and effectual remedy for all *inflammations*, and is especially commended by Bate, Willis, Motherby, and others, in pleurisy. It has probably been too exclusively relied on, to the neglect of its requisite adjuncts; and, through the caprices of certain leading authorities of the last century, this valuable remedy fell in repute, and was totally proscribed in all cases of inflammation.

Dr. Armstrong again attempted to establish its use in fevers and inflammations; he has been ably seconded, but with little effect, however, such is the force of prejudice and early impressions. Motherby, who gave the collective opinions of his time, says it is anodyne, antispasmodic, that "it *abates inflammation* both internally and externally; *it moderates the heat in fevers*, and assists other medicines in producing a more speedy effect; it discusses *stagnating fluids*, removes obstructions arising from spasm, promotes the discharges through the skin, but retards all other evacuations; abates all kinds of pains, &c."

As to the subsequent treatment of these disorders, when further developed, the use of baths, stimulant frictions, and other important measures, it is not my purpose to advert here, having, in a pamphlet on the subject, stated the result of my experience on the *vomito prieto*, and cholera of South America.

Respecting the alleged contagious nature of the present epidemic, it appears sufficient to remark, that were the disease really contagious, it would assail those chiefly who have been in company and in contact with the sick, or whose occupations expose them most frequently to its fomites; whereas it appears that people who are thus daily compelled to take the breath and handle the sick and dead bodies, are not more frequently attacked than others who have not seen or been near a case of it. This is proved by daily experience both in and out of the hospitals.

Turner-street, Commercial-road.
August 13th, 1832.

P.S. The important experiments of Dr. O'Shaughnessy on the conditions of the blood in *health* and *disease*, merit the serious consideration of the faculty, as calculated to throw much light, perhaps, on the nature of our disorganizations. They appear to indicate, that the morbid changes in the blood are rather the consequences than the cause of disease, at least with respect to cholera; no change being appreciable till the disease had made great advances. I would suggest the query, however, whether the latent germ of disease may not previously exist, and yet be totally incapable of detection by chemical agency, or by any mode of examination whatsoever. Those morbid states of the atmosphere which give rise to epidemic distemper, have, hitherto, eluded the researches of chemistry. Innumerable experiments had been made on mineral waters and that of the ocean, before the smallest traces or indications of iodine or bromine were discovered; and we know not what other principles may yet remain to be elicited from them. Ancient philosophers, we

* Such speculative conceits are of no real value, but are exceedingly pernicious, deluding both young and old, under the specious misnomer of useful science. Our knowledge of natural bodies has been greatly improved by the march of chemical science; but in pharmacy, although many senseless fascies have been abrogated, it appears that the science has of late years rather retrograded in point of real and practical utility, notwithstanding a vast display has been made of the wonderful discoveries of some industrious Frenchmen, as Derosne, Sertuerner, and Robiquet. These conceits serve to occupy the pages of our new dispensatories, as most important discoveries, whilst no one undertakes to investigate their real or pretended value. It is right to observe here, that the black drop, and later pretended discoveries, the *liquor opii sedativus*, &c., are mere modifications of receipts known 300 years ago, or more, and subsequently under the name of Bate's *laudanum cydoniatum*, or opium fermented in the juice of *quinces*, with an addition of *yeast*; a preparation at least equal to any at present employed, whether English or foreign.

† Similar resolvent powers have, from the earliest times, been ascribed to divers herbs, especially to sage, rue, mint, and hyssop.

are told, have opened the body to search for the soul, but we must not suppose that the *vital principle* is to be detected by chemical research, as if it were an alkali, an acid, or *salt* according to Helmont. It can only be said, in the present state of our knowledge, that the *observable* changes in the vital fluid, are in all cases, the results, and not the cause, of disease.

CALCULUS IN THE BLADDER.

To the Editor of THE LANCET.

SIR,—I have the honour of forwarding to you the history of another case treated with the *percuteur courbe à marteau*, begging you to give it insertion in your valuable Journal. I am, Sir, your obedient servant,

BARON HEURTELOUP.

1, Vere Street, Cavendish Square,
Aug. 10, 1832.

Mr. M., of the East India Company, ætat. 63, of a tolerably good constitution, tall, but rather emaciated and weak, experienced for the first time, about twelve years ago, pain in the loins, which returned at different intervals, with more or less severity. These attacks were at first slight and of short duration, and were accompanied by the evacuation of red sand with the urine; but after some time they became more severe, and the patient frequently voided smooth, round, calculi, about as large as small peas. Besides these nephritic attacks, Mr. M. sometimes found great difficulty in making water, and occasionally felt considerable pain all along the urethra, after he had voided his urine. About six years after the first attack, Mr. M. finding that the symptoms increased in severity, and fearing that they were caused by the presence of a stone in the bladder, consented to be sounded; but although a very careful exploration was made, no stone could be discovered.

Quieted by the assurance that he was not labouring under stone in the bladder, Mr. M. pursued his usual occupations for nearly six years more, and paid but little attention to the inconveniences and painful sensations which he sometimes experienced. At the commencement of the present year, however, the symptoms assumed a much more severe and serious character; Mr. M. was much alarmed, and wished to be sounded again. A stone was distinctly felt in the bladder, and the patient immediately left his country seat, where he had taken up his abode with a view to improve his health, and came to London. He consulted Mr. Green, who, finding the symptoms too indicative to consider it necessary to sound the bladder, did me the honour to recommend the patient to me.

I sounded with the *recto-curvilinear catheter*, and found the urethra rather narrow, especially at its anterior portion; the bladder moderately sensitive and dilatable, considering the size of the stone, which appeared to be rough and heavy, and about an inch thick, and from eighteen to twenty lines in its longest diameter; it was held by the sides of the inferior part of the bladder, but with the sound it was possible to turn it over. Notwithstanding the advantages to be derived from the employment of the *percuteur courbe*, this case was rendered difficult by the size of the stone, and the little physical force of the patient; I was undecided as to whether it would be well to operate, and I was only induced to do so by the anxious wish of the patient, and more especially by the resolution and moral energy which he displayed.

After having, by a small incision, enlarged the external orifice of the urethra, which was extremely narrow, and prevented the introduction of an instrument sufficiently large to fill up the remainder of that canal, I commenced the operation with a *percuteur courbe* of about three lines and a half in diameter. Having first, with the catheter, removed the stone from behind the neck of the bladder, where it was continually situated, I introduced the instrument, and immediately seized and broke this large calculus into fragments; two of the pieces, which the *percuteur* showed to be about twelve or fifteen lines in diameter, were afterwards comminuted in the same manner, and the instrument was then withdrawn. The patient passed a considerable quantity of the *debris* of the stone immediately, and during the three or four successive days. In four other applications of the *percuteur*, each of which, as well as the first one, lasted from three to four minutes, the patient was enabled to evacuate all the portions of stone contained in the bladder.

Mr. M. having naturally a small stream of urine, and but little repulsive power, found difficulty in voiding the fragments of stone, and I was consequently obliged to have recourse to the *evacuating catheter*.

Mr. Rose, the patient's medical attendant, saw the first operation, and Mr. Green was present at all of them.

Reflections.

This case is not only remarkable on account of the size and hardness of the stone, which was composed of oxalate of lime, but also on account of a deficiency of physical force in the patient; and it proves that cases may be prudently undertaken

notwithstanding those difficulties, provided the patient have on his side firmness and moral energy. It may, however, be added, that his firmness was not put to a very severe trial, for Mr. M. obtained relief rapidly, and without much suffering. It is to the use of the *percuteur* that this favourable result may be attributed; for the size of the stone was such, that I can safely assert, that the application of any other instrument would not have been attended with success; for whatever be the insensibility of a patient, a moment must arrive after which he can no longer bear the manœuvring of the instruments; and Mr. M. was unusually disposed to fall into this unfavourable condition. It was, therefore, exceedingly fortunate that he had only to undergo very few applications of the instrument, and each of short duration.

We may fairly suppose that the stone had, in this case, been forming for twelve years, and it was only discovered after that long lapse of time, although the patient was sounded about five years after the appearance of the first symptoms. This circumstance shows the importance of seeking to possess the most perfect possible means of exploring the bladder. A large *curved catheter* is, I think, less accurately adapted for performing a careful exploration than a *small curved* one, which by being straight in the portion that remains in the urethra, allows the instrument to be revolved on its own axis, whilst with a catheter presenting a large curve, this movement is impossible. The curve of my *recto-curvilinear* catheter* has appeared to me the one best suited; and I think I may venture to recommend it as such. It would have saved Mr. M. years of pain and inconvenience had he sooner been apprised of the nature of his complaint, and sought earlier for relief from it. The stone would then have been smaller, and the difficulties of the case would have been greatly diminished.

CASE OF

IMPERFORATE VAGINA.

OPERATION — PERITONITIS — DEATH — UTERUS WANTING.

By JOHN MACFARLANE, *M.D., Sen.-Surg. Roy. Infirm. Glasgow.*†

To show the danger which sometimes follows operations on the sexual organs of the female, as well as to confirm a curious physiological fact regarding the uterus, I subjoin, from my private note-book, the following case:—

Mrs. C., about twenty-eight years of age, consulted me on the 4th of February, 1823. She was rather a stout, well-formed woman, but had a pale and sickly appearance. After stating that she had been subject to severe attacks of epistaxis, at irregular intervals, since she was sixteen years old, and to vertigo, flatulence, palpitations, pains in the lumbar region, vomiting, occasional diarrhœa, &c., she confessed that she had never menstruated. On farther inquiry I found that she had been married for twelve months, and that there existed an obstruction in the vagina, which she was anxious to have destroyed.

On inspection, the external orifice of the vagina was found completely closed by a thick, firm, muscular-looking substance, continuous with the inner margin of the labia, and adhering to the pubes below and around the urethra, so as to leave not the slightest vestige of an opening. It had neither the feel nor appearance of a membrane, but was granular on the surface; and when the labia were freely separated, bands of muscular-looking fibres were seen passing to it. The little-finger could, by pushing this obstacle before it, be introduced about half an inch into the vagina, which was excessively small and contracted. The external parts were well formed, and the orifice of the urethra was natural, but the clitoris was unusually small. There was no swelling in the hypogastrium, the bladder and rectum were free of obstruction, the mammæ were plump and well formed, and the sexual appetite was not deficient.

From her great anxiety to have this malformation destroyed by an operation, I agreed to perform it on the afternoon of the day on which she first consulted me. Having placed her in the lithotomy position, I commenced, with the assistance of my friend, Dr. Weir, by making an incision with a bistoury an inch and a half in length, in a perpendicular direction, through the centre of the fleshy-looking obstruction. I then thrust forward a sharp-pointed, narrow bistoury, for more than an inch opposite the orifice into the vagina, directing the point rather downwards, with the blunt edge to the pubes, to avoid wounding the urethra. I found, however, from the great thickness of the substance, and the uncertainty regarding the position of the parts in the track of the vagina, that a continuance of this mode of procedure was neither safe nor justifiable. I could not succeed in forcing a probe or a director through the remaining portion; I therefore divided and removed, by means of the forceps and scissors, several layers of it. By keeping a

* See my work on Lithotrity, page 261, plate 4.

† From Macfarlane's Clinical Reports of the Surgical Practice of the Royal Infirmary, Glasgow. 1822.

catheter in the urethra as a guide, and by occasionally introducing the finger into the rectum, I was successful in clearing a passage fully two inches in depth. There was still, however, an obstructing portion, beyond which there appeared to be a free cavity. Through this a pair of dissecting scissors were passed, and the remainder of the obstruction divided by introducing a director into the opening thus made, getting it behind the upper part of the obstruction, and forcing it nearer the external orifice. The finger was then passed into the upper part of the vagina, which was lubricated apparently by mucus, but no uterus could be detected. A small piece of soft sponge, through which a strong thread was passed, was inserted, and a few strips of lint were placed between the external lips of the passage.

5th. Could not be persuaded to keep the house, but called for me to state how free from pain she had been since the operation; considerable sanguineous discharge from vagina; the sponge was withdrawn, and the parts lightly dressed with oiled lint.

On the 8th she was exposed to a severe snow-storm, while assisting her husband in his trade as a broker; in the evening she was intoxicated, and even guilty of other irregularities; to which rigors, acute pain in the right side of the abdomen, flatulent distention and nausea, speedily succeeded.

9th.—The pritoneal inflammation appears to proceed rapidly; the tension and pain of abdomen are now more urgent; there is vomiting, with furred tongue and diarrhœa; pulse 136, small and wiry; skin hot and dry. *Was bled three times, to the amount of forty oz.; had a dose of ol. ricini, followed by fomentations to the abdomen; calomel and opium; and the injection of the tepid water into the vagina.*

10th. The symptoms, for several hours in the forenoon, were moderated by the application of a large blister to the abdomen; in the evening they were much worse, and appeared to be aggravated by the imprudent conduct of her attendants, who, contrary to the most positive injunctions, gave her wine to support her strength, opium pills to procure sleep, and nitre to remove the strangury occasioned by the blister. The belly was excessively tumid, tympanitic, and exquisitely painful on pressure; the breathing hurried, the countenance sunk and anxious, and the vomiting almost incessant; pulse 150, tremulous and compressible; tongue dry and furred.

11th.—Vomiting abated, pain of abdomen still continues as acute and extended; appears to be sinking rapidly. Died on the morning of the 12th, at two o'clock, about 203 hours after the operation.

Post-mortem examination.

13th.—The body was inspected in presence of Dr. Weir, Mr. Stirling, and several of my pupils. The omentum and the peritoneal covering of the intestines and abdominal muscles were covered with patches of inflammation of a bright-red colour, as was also, in a smaller degree, the peritoneum, covering the fundus of the bladder, and that portion of it in which the uterus is usually involved. The ovaries were well formed and large, the Fallopian tubes were each one inch and a quarter in length, their fimbriated extremities being perfect. There did not exist the slightest vestige of a uterus, its usual situation between the transverse folds of the peritoneum being occupied by a portion of condensed cellular substance, about the size of a filbert, which was more than an inch distant from the uterine extremities of the Fallopian tubes, and was but loosely attached to the peritoneum. When the finger was introduced into the vagina, the cavity at its upper part was ascertained to be formed by the peritoneum, between which and the upper boundary of the obstruction there was a free space capable of containing a small line. The vagina, when slit open, presented an ash-grey appearance; the urethra, bladder, rectum, and peritoneum, were uninjured.

Remarks.

The obstruction in this case was evidently congenital, and differed, both in situation and appearance, from that cohesion of the parts which is sometimes produced by neglected ulceration. An obstruction from the latter cause may occur both in children and adults; it is, however, rarely confined to the vagina, but more generally involves the external parts, as the nymphæ and labia. The most extensive case of this kind which I recollect to have met with, was in a prisoner in the Bridewell of this city in 1817, during the short period of my attendance as surgeon to that establishment. From a long-continued gonorrhœa and want of cleanliness, the lining membrane of the labia, and the inner surface of the nates around the anus, became excoriated and ulcerated, and adhesion by granulation took place through their whole extent, leaving only two small openings for the escape of the urine and feces. The adhesions were divided, and the parts restored to their natural state.

We are told that when the uterus is altogether wanting, or of a small size, the external parts are but imperfectly developed, and the vagina is either very short, or altogether obliterated. In this case, all the external parts were well formed and entire, and the mammæ were fully developed, yet no uterus

existed—this circumstance is, however, easily explained, when we find that the ovaries were present. These organs are known to be more intimately connected with the growth of the external parts of the female than the uterus, and when they are absent, the marks of puberty are rarely, if ever, exhibited.

MODIFICATIONS

IN THE

SYMPTOMS OF CHOLERA.

As the symptoms of cholera are somewhat modified in this country, I shall attempt to describe, in a general way, their modifications, and also the modifications which the treatment necessarily assumes, before entering upon an enlarged consideration of the disease, and of the remedial measures. The symptoms are commonly much slower in their progress to death or to recovery in England than in India. In England the disease is commonly attended with premonitory symptoms of many hours', or perhaps of some days' duration, previous to the commencement of the severe attack, affording a most favourable interval for the adoption of medical treatment; and even when the severe symptoms have set in, it is but seldom they advance with such rapidity as was their usual course in India. In England, the cramps are less severe in the extremities, and the spasmodic action of the stomach and bowels, evinced in vomiting and purging, is commonly less violent. The cold and clammy perspirations are less profuse. The patient loses his animal powers less rapidly, and the blue, or *poisoning*, appearance, as it may be called, is slower in establishing itself. In India, the disease was seldom attended with severe consecutive fever, and when it was, the fever assumed the types indigenous in that country. In England, acute cholera is almost uniformly productive of a severe fever, and this fever assumes the different types indigenous here, appearing, according to circumstances, in the form of typhus, or of simple inflammatory fever, or of the synochal. In this outline are enumerated the more prominent modifications which the symptoms of cholera have presented in England; but, it must not be forgotten, many cases occur which preserve throughout the whole of the acute period an exact resemblance to the cholera in India, and without undergoing the slightest modification in any of the phenomena that precede the consecutive fever.—*Kennedy's History of Cholera, third edition.*

IRREGULARITIES

IN THE

SYMPTOMS OF CHOLERA.

The above description of the symptoms will apply to the most ordinary course of cholera; but a deviation from this course is not unfrequent, consisting either in the absence of some one or more of these symptoms or of a variable degree in their intensity. These irregularities in the phenomena have been the cause of much apparently contradictory testimony and strong feeling among medical men, which might have been avoided by an appeal to general experience—for, in no disease do we find *all* the symptoms known to have attended it, present in every case, or of uniform intensity. Severe cramps in the limbs are commonly experienced in an attack of cholera, yet many cases occur in which the cramps are slight, or altogether absent. This exemption has been more particularly remarked in the attacks of young children. Complete suppression of urine is a common symptom; yet many cases occur in which the suppression is only partial, and in some the urine is voided in its natural quantity. After being suppressed, the secretion of urine is usually restored early in the consecutive fever; yet occasionally it remains absent during the whole of the febrile period. In an exceedingly rare case, there has been no purging, and less rarely the absence of vomiting has been remarked. I have not seen both of these symptoms wanting in England, but in hot countries where the disease has proved almost instantaneously fatal, such cases are recorded. The blueness and macerated appearance of the skin of the hands and feet are frequently not present. Instead of the shrinking of the features, a puffiness of the face has been noticed in children, and in elderly persons of lax fibre and loose adipose structure. Some patients, while in the acute period of disease, breathe with difficulty, and suffer from jactitation; others again die in the calmest manner, without either of these symptoms. In some the voice remains clear and pretty firm to the last. In three cases I have seen blood expelled from the bowels in considerable quantities; and in two cases I have seen hemorrhage from the nose. The abnormal symptoms do not seem, in the order of their occurrence, to have any connexion with each other. The secretion of urine may be present equally in a blue case as in one where this change does not take place—and so of the remaining symptoms.—*Kennedy's History of Cholera, third edition.*

Debility does not Predispose to Cholera.—If we except the condition of the mucous membrane of the intestines, it may be said in general terms that the organs of those who die of cholera are peculiarly healthy. It was remarked by all who assisted at our autopsies in the Albion Street Cholera Hospital, Glasgow, that they had never seen the same number of examinations exhibit as little disease. The brain, heart, liver, spleen, kidneys, and urinary bladder, were almost universally found free from organic lesion. The kidneys were more frequently diseased than any other gland. The lungs, disease of which constitutes so large a part of our annual bills of mortality, were found so generally healthy, that I could not have believed that the same number of individuals, taken indiscriminately, would have presented these organs in a condition so free from organic lesion. From this I am justified in the inference that organic disease, or debility arising from it, does not predispose to cholera. This is a startling conclusion, but for its truth I refer to our hospital journals, which contain accurate histories of upwards of six hundred cases. How many hundreds are at this moment labouring under phthisis in Glasgow, and how few of them have been carried off by cholera!—*Dr. Lawrie's Report, Glasgow Jour.*

Deficient Nourishment not a Predisposer to Cholera.—If full muscular vigour, and plump (at times overloaded) cellular and adipose tissue, be any proof of adequate nutriment, deficient nourishment does not predispose to this disease. The majority of our patients exhibited apparently full muscular power, and few were much emaciated. A reference to the tables will show that out of 455 cases, 331 were between the ages of 7 and 50, while 30 were below 7, and 94 above 50. This conclusion is still more startling than the last, but must be admitted with greater limitation. We know that a very small quantity of vegetable food is sufficient to support life, and give the frame the appearance of muscular vigour and ample nourishment, yet when such persons are brought into competition with others fed on animal and more nourishing diet, their inferior capability of fatigue is soon manifested. It is probable that their relative power of resisting disease may be in the same ratio. Be this as it may, our experience falsifies the loose assertions of those authors, who assert that the diseased, the gaunt, and the emaciated, are the only victims of cholera. —*Ibid.*

Invariable Symptoms of Cholera.—Of all the patients admitted into the Albion Street Cholera Hospital, Glasgow, there has not been one in whom the disease did not begin in the bowels and stomach. In the vast majority purging was either premonitory, or the first symptom. Some there were who said that nausea and vomiting first annoyed them, but all had purging early in the disease. In some there was no vomiting, in others no cramps, in a few the pulse, capillary circulation, and respiration, were good, but all, to a man, had a discharge of characteristic watery fluid from the bowels. So much am I convinced of this, that I now consider watery purging essential to cholera, and have no hesitation, in my own practice, in pronouncing any disease not cholera in which this symptom is absent. The purging is usually unattended by griping pains. In every case, which I have had an opportunity of watching from its commencement, the failure of the pulse, capillary circulation and other symptoms of collapse, have been in marked proportion to the amount of fluid discharged, the rapidity of its discharge, and its approach to water in colour, consistence, and smell. I know no symptom by which a common diarrhœa or disordered stomach and bowels can be distinguished from the early stage of cholera.—*Ibid.*

Sulphate of Copper, or Nitrate of Silver, in Cholera.—It strikes me as very remarkable, that during the various and long-continued discussions on cholera and its treatment, no one has ventured to recommend the use of the sulphate of copper, nitrate of silver, or some of the more powerful astringents. The rapid exhaustion attending the disease, produced apparently by the extremely copious alvine evacuations, seems to me to point out the necessity for having recourse in any early period of the disease to the use of such remedies as the above. Nor can there be considered anything rash or unwarrantable in the use of such remedies in the disease in question. It is now well known that some very violent diseases, although commencing with inflammation, very rapidly change their character, and with an atonic condition of the parts affected, are attended with profuse discharges. These, it is now well known, are best treated by powerful astringents. I need scarcely instance what seems to me a very analogous disease (the mucous lining in both being the primary seat of diseased action) occurring in a very different, more limited, and less vital part of the system than that affected in cholera, viz., purulent ophthalmia. But it is scarcely needful to travel so far from the seat of dis-

ease; we have an example in the case of dysentery nearer home. If any one having opportunities should be induced to put this plan to the test of experience, I think it would be best to follow the mode of combining the salt with a due proportion of opium, as recommended by Dr. Elliotson.—*Communication from Mr. John Walker, of Manchester.*

Blistering in Cholera.—An officer in the Honourable East India Company's Service was attacked by the cholera on his homeward-bound voyage to England. By mistake the stomach-warmer, filled with boiling water, was applied without the intervention of flannel; it very quickly produced a blister, and all the urgent symptoms of the disease disappeared within three hours, leaving the patient with only one inconvenience,—the unsought-for blister, which confined him to his hammock for a week. Although the remedy may appear severe, yet as the skin in the first stage of the disease is insensible to the action of chemical agents, the pain arising from it is not so great as might be supposed, and I think it would be well if the heads of families were to add a stomach-warmer to their kitchen furniture.—*Communication from Mr. S. Millard, Jun., of Bristol.*

Nitrous Oxide in Cholera.—From the effects which are sometimes experienced in consequence of inhaling nitrous oxyde gas, I am led to think that it would answer very effectually the purposes of a stimulant in cases of cholera; for when the state of excitement is over, the sedative will not, as after the use of other stimulants, ensue. Not having a sufficient number of cases to make the experiment on, I suggest the remedy without trying it myself, but of this I am fully convinced, that it cannot do any possible harm. The nitrous oxyde may be very easily prepared by disengaging the gas by means of a lamp, from nitrate of ammonia, and receiving it (previously passed through water) into a bladder with a stop-cock and tube attached to it, any quantity may be inhaled by that means without disturbing the patient in the least. Should any gentleman make trial of it, I should feel extremely obliged if he would relate the case in The Lancet. J. Hudson.

Aug. 11.

Insanity.—The raving mad are more frequently cured than the melancholy, in Bedlam, in the proportion of 62 to 27: a proof that it is easier to moderate too great irritability than to animate insensibility. In the year 1789, Black found in Bedlam,—insane from grief and misfortune 206, religion 90, love 74, jealousy 6, fright 51, study 15, pride 8, drunkenness 58, childbirth 79, constipation 10, hereditary complaints 115, contusions and broken bones 12, venereal disease 14, smallpox 7, repercussion of the itch and healed ulcers 5. From the year 1748 to 1820, the number of insane recorded in England was 32,744, of whom 12,254 were cured; from the year 1801 to 1813, there were admitted in France 4213, cured 1893; from the year 1798 to 1823, admitted in Würzburg 528, cured 292. The lists of the Berlin Charité exhibit, on an average, not more than 4 cures out of 15 cases. It appears, therefore, that the method of treatment pursued at Würzburg has proved most successful.—*Freidrich's Diagnosis of Mental Diseases.*

DUBLIN CHOLERA HOSPITAL.

To the Editor of The Lancet.

Upon looking into a late number of The Lancet, I was not a little surprised to find a letter, headed Juvenile Appointments to the Dublin Cholera Hospital, complaining that pupils should be allowed to risk their lives in the public service, while members of the College of Surgeons might be found who would be glad to have accepted the situations affording pay. Having lately held one of those situations, I feel myself called upon to reply to this complaint. The writer states, that the surgeons of Stevens's and the Richmond Hospitals, on the breaking out of the disease, immediately appointed a number of their own apprentices, at the same time questioning, in an under-hand manner, the right those gentlemen possessed to make these paltry appointments, they being, as members of the Board of Health, intrusted by their fellow citizens with the regulation of the public hospitals. Mr. Cusack of Stevens's and Mr. Prile of the Richmond, are evidently the gentlemen alluded to; and of the four resident pupils at Grange Gorman Lane Cholera Hospital, two were apprentices of Mr. Collis, who had nothing whatever to do with the appointments, one of Mr. Carmichael, who was in the same predicament, and but one of Mr. Prile's. He states that *they* were mere boys, and at most but three years at the profession, the youngest of whom was in his twenty-first year, and the most junior within six months of the termination of his apprenticeship. But I should be very sorry to urge these as qualifications to be compared with the possession of a diploma from the College of Surgeons. On the contrary, I venture to affirm, that there was

not a pupil in Dublin, who had the most remote idea of being employed, so long as there remained a licentiate in want of a situation, but when those situations remained for nearly a whole fortnight open, and in the want of men to fill them (and what qualified man, may I ask, would accept of a situation, the duties of which were in the highest degree arduous, harassing, and fraught with danger, for a bare 7s. 6d. per diem?), it was then that the offer was made to the pupils, by many of whom it was refused before we even heard of it. It is true, that after a short time, in consideration of our services, our salaries were increased so as to make them desirable to even a qualified person;* but would it have been then in any respect fair to take them from us, who had "borne the burden and heat of the day," and given them to others who did not think them at first worth their acceptance?

The insertion of these remarks in your far-famed publication will particularly oblige,

A "JUVENILE" CHOLERA DOCTOR.

Dublin, June, 1832.

HOSPITAL OPERATIONS.

To the Editor of THE LANCET.

SIR,—Having lately witnessed many unsuccessful operations at the London Hospitals, I have been induced to make a comparison between operations performed in private practice and those occurring at hospitals, and the success is greatly in favour of the former. This being admitted, it becomes a question why nearly all cases amongst the lower orders requiring surgical operation should be sent to these institutions? I am aware the general answer is, "Because they have more comforts and are better provided for than at their own houses;" but I am inclined to think it more generally arises from reluctance to the part of the medical attendant to use the knife. How many patients are yearly sacrificed in consequence of the operation for strangulated hernia not being performed in proper time! I am confident the following is not an exaggerated case, and many of your readers have witnessed several such during their hospital attendance. A poor creature labouring under strangulated hernia sends for a general practitioner, who, after trying various means to reduce it, is unsuccessful, and orders the patient to be sent to the hospital, perhaps a distance of four or five miles, and the vehicle a rough cart. On his arrival, the dresser (perhaps a perfect tyro) commences another attack upon the parts, which probably fails. The surgeon is then sent for, and arrives in four or five hours. The taxis is again applied without success, and as a dernier resort the operation is had recourse to, the intestine found gangrenous, and the patient in a short time is a corpse. I have seen this operation performed frequently amongst the poor in the country, and generally with success; but I confess at the London Hospitals the result has been far otherwise, arising from the operation being too long delayed. Yours respectfully,

A CONSTANT READER.

* The emolument attached to the situation varies, we are informed, from 10s. 6d. to 15s. per day, with board and lodging. The above letter was mislaid.—ED.

REBUILDING OF

WESTMINSTER HOSPITAL,

(From a Correspondent.)

THE committee appointed to conduct the arrangements for rebuilding this hospital have at length brought their labours to a conclusion. Last spring a plot of ground, situated in the Broad Sanctuary, opposite the north front of Westminster Abbey, was purchased from the Commissioners of Woods and Forests, for the sum of 6000*l.* sterling, which was immediately paid. The ground purchased comprises an area of 26,000 square feet, and was deemed sufficiently spacious for the erection of a building adequate for the reception of 200 patients. It was thought desirable that the architecture of the building should harmonize as much as possible with that of the adjacent abbey, and it was resolved accordingly that the elevation should be Gothic, of the later Tudor style. Consonant with this resolution, prospectuses were forwarded to many eminent architects of this metropolis, by whom several plans were sent in. After six weeks' deliberation, the design of Mr. Inwood, the well-known architect of St. Pancras church, and of the Colosseum, was chosen. In this act, it must be allowed, the Committee displayed much taste and judgment, for it is difficult to determine whether the design of Mr. Inwood be most admirable for its beauty, or most estimable for its convenience. The mansion is designed in the collegiate style, and is remarkable for lightness, simplicity, and a certain *otium cum dignitate* highly appropriate to the purpose of its institution. What chiefly attracts the eye of the medical connoisseur, however, is the economy of the interior arrangements, in which the artist has ingeniously contrived to afford unstinted supplies of light and

abundant ventilation, and to combine the utmost amplitude of space with the most judicious distribution of offices. The building is adapted to accommodate 220 patients, and each patient is allowed a cubic space of 1900 feet. Each ward is calculated to hold 15 patients, a number which experience shows to be most convenient for the enforcement of that regiminal coercion which constitutes the principal advantage of hospital treatment. The distribution of water-closets, bathing-rooms, and other necessary offices, is effected with much convenience and simplicity, and the whole building, in short, is well suited for the efficient management of a large hospital. The design of Mr. Inwood forms a striking and advantageous contrast to the much-vaunted and baby-house refinement of the Derby Infirmary.

The plans and elevations having obtained the approbation of his Majesty's Commissioners, have been contracted for by Mr. Baron, who undertakes to carry into execution the designs of Mr. Inwood for 24,965*l.*, and the alterations suggested by his Majesty's Commissioners for a further sum of 570*l.*, making a total of 25,535*l.* To this must be added, the architect's commission of 1250*l.*, which will enhance the expense to 26,785*l.* To meet this expense there is a building fund of 22,000*l.*, and it is anticipated that some of the wealthy supporters of the charity will contribute to make up the deficiency. Mr. Lynn, the senior surgeon, has declared his intention of making the munificent present of 2000*l.* The Archbishop of Canterbury, the Duke of Northumberland, and the Marquis of Westminster, have also signified their intention to contribute large sums. But active exertions in behalf of the institution have not been confined to the titled governors. Mrs. Ann Cox, the zealous and indefatigable matron of the charity, ever ingenious in promoting its welfare, recently originated a sixpenny subscription, with a view of enabling those who had derived benefit from the institution to contribute to its prosperity, and her exertions have been crowned with signal success; a sum of not less than 500*l.* has been accumulated by this apparently inadequate means. Mrs. Cox required a donation of sixpence only from each contributor.

It is but justice to observe, now that the negotiations are brought to a favourable issue, that the result is principally due to the judicious management and unwearied exertions of Mr. Charles Hallett, the treasurer and chairman of the committee. The delicate tact and equanimity of temper which he exhibited in leading and controlling a body consisting of such discordant elements as compose this heterogeneous committee, can only be fully appreciated by those who witnessed the many perversities, perplexities, and vexations, that arose during a tedious negotiation of ten months' duration.

It is to be hoped that the governors of this old charity, in withdrawing from their present dingy and dilapidated edifice, will not neglect the opportunity of shaking off the innumerable abuses which have hitherto disgraced the institution.

The engineers commence their labours forthwith.

SHUFFLERS, APOSTATES, AND BATS.

To the Editor of THE LANCET.

SIR,—Excuse the heading, it is a queer one, but it concerns queer subjects. Pray, what have you been at, Mr. LANCET, lately? And I suppose you will ask—Pray, what have *you* been at, *Mr. Castigator*? Why, I have been slumbering, Mr. Editor, and so have you. Not lodged in the tomb of the Capulets. No. I have been in a Promethean Lodge, where I have imbibed new heat, a fine store of it, with which I shall now scorch those delinquents who, ever dabbling in the mire of corruption, have attempted to tarnish the bright and glorious shield of medical reform. No, no, *Castigator* has not slept. Somnus has had no influence over him; or, if indeed he have been dreaming, he has indulged only in the reveries of daylight observation.

When I last addressed you, the subject of my brief epistle was Dr. JAMES JOHNSON. Did I speak reproachfully? If so, he will forgive me, because my complaint was founded upon what I conceived to be his ill usage of you—the father of medical reform. Why, I knew Dr. Johnson of old. Animosity towards him was not comprehended in the phial of my wrath. On the contrary—barring his Latin quotations, I always regarded him as an acute writer—if not a profound reasoner—as a kind father, a sincere friend, and a shrewd physician. But when he allowed prejudice or any other cause to pervert the stream of approbation from the direction in which it ought to flow, then it was that *Castigator* applied the lash; and then, when I do strike, sundry culprits whose wrists were tightly fastened to the halberds, will allow that I do not hit without cutting deeply. The Doctor felt the lash. He awoke from the trance into which he had been thrown, and became sensible of the injury which he had inflicted upon his character by denying justice to others, and no sooner had the inquest on the body of the slaughtered

Miss Casbin terminated, than Jem became himself again, and was the first to do justice to your exertions on that extraordinary occasion. Could I, then, continue to strike? No. My arm was stayed, the thongs dropped, and I freely admitted that my friend Johnson had nobly shaken off the pestiferous influence of slander; that he had regained his manhood—that correct feelings had asserted their predominance over the unworthy aspirations of party. Such was my opinion, and I candidly acknowledge it. Henceforth I am at peace with the Doctor.

But there are enemies of the cause whose steps are ever directed in the paths of unrighteousness. Am I from such men to withhold the lash? No; and if I have restrained my hand during some months past, the forbearance has not been the effect of decrease of power. I *can* strike, and when I do, the blow shall be felt. You, Mr. Editor, appear disposed to tickle the ribs of those whose backs you were wont to scourge in former times. Are the disgusting Bats agreeable to your sight? Accursed monsters. I will make no truce with them.

If you hold out the flag of peace towards them, I question not your honesty but your discretion. You have been cautioned not to write so severely. Who uttered that caution? Your friends or your foes? Why the guilty culprits who writhed under the frequently-repeated distilment of your attention. Are you so weak as to be deluded by such treacherous advice? I will not believe it. You are reserving your powers for some more fitting occasion. Remember, while on this subject, what it was that made THE LANCET such an instrument of mighty influence. Remember what it was that gained for the faintest tinkling sound of your weapon the attentive ear of the whole English public! Not only your honesty, Mr. LANCET, but your just and bold severity; and sternness of justice must still be exhibited in your pages, or the brilliant polish which is reflected from the shield of medical reform will be eclipsed for ever.

Such, Sir, is my hint to you on this occasion. A gentle tap on the cheek, to direct your eye towards certain parties, in order that you may show them that you are neither dead nor sleeping, and to tell you that I have a few rods in pickle, which shall make some persons smart, that shall castigate the most corrupt of the BATS, and not only the BATS but their advertisers, their sycophants, their food-supplying caterers, among whom stands foremost that rough-headed Irishman, Michael Ryan. Half Hibernian myself, I use not the term Irishman in an invidious sense; for, from my soul do I love the Irish; and where is the Englishman who does not feel that he and all his children are deeply indebted to the glorious exertions of Irishmen in the cause of liberty? But the virtues of that nation in the cause of reform, make the renegades of that country appear the more detestable and loathsome. Now I have watched Michael—I have tracked his course. I observed him when first he seized the handle of the spade on becoming sexton to Underwood's mausoleum. I have seen how the uncouth bungler has attempted to thrust his clumsy-bladed instrument into the skulls of decayed Yoricks. I have beheld his imbecility with contempt, his impotence with satisfaction, his malignity with horror. Can I correct him? Can I let out the poison which corrupts his blood? I will try. His coat is off; his undergarments are on the ground; his back is bare; the arm is raised; the nine thongs are nine times nine knotted, and a voice loudly exclaims "Mick, beware of

CASTIGATOR."

Scorpion-street, London, Aug. 8, 1832.

THE LANCET.

London, Saturday, August 18, 1832.

IN the *Quarterly Journal of Education*, No. 7, published under the superintendance of the "Society for the Diffusion of Useful Knowledge," there is an article occupying 21 pages, entitled "Recent Improvement of Medical Education."

Struck by this imposing and captivating introduction, we were led to examine the essay with no small degree of curiosity and care, expecting to find thrown together in an agreeable and concentrated form the changes in medical discipline which have produced the "Recent improvement of medical education."

The sequel of our undertaking has been —disappointment. For the essay is ill written, and its contents are miserably arranged, and it is altogether wholly divested of those materials which ought to have been collected under its interesting title.

When it is considered that this paper

has emanated from a committee, or under the sanction of a committee, of which the Lord Chancellor is chairman, and which contains amongst its members five or six physicians and surgeons, besides a large number of individuals who claim a station amongst the *literati* of the country—this paper, if it exhibit any signs of "recent improvement of medical education," must at the same time furnish indubitable testimony that there was no medical education in any part of the united kingdom, during a very short period antecedent to the publication of the article in question.

The pegs on which the writer has thought it his duty to fasten his remarks on the "improvement," are the most curious that could well be devised—namely, two introductory lectures, and a *Cyclopædia* of practical medicine; and then, springing off, like a blind man jumping from a precipice, without knowing where he should fall, or what would be the result of his hap-hazard adventure, he starts off to the "School of Leyden," and concludes by instructing us in the "recent improvement in medical education," by stating, in the very last paragraph of the article, that "an improvement which *will be* effected, and which *will* materially change the whole face of medicine, will arise from a minute investigation of the state of the fluids of the body, and especially of the blood!"

Without questioning the sagacity of this prediction, we may remind the writer, that discoveries *yet to come* have little to do with *recent improvements*. But it is quite clear, that the gentleman who indited this paper, does not understand what is meant by the word "education;" at least, as it relates to scholastic discipline and arrangements.

The author is enamoured of the school of Edinburgh, which, he tells us, "began to be conspicuous, as the reputation of that of Leyden declined." In referring to the deceased teachers in the medical department of the Northern University, he exclaims "Hope *primus*, Monroe *secundus*, worthy of his father, Home, Hamilton, Rutherford, and the venerable and excellent Andrew Duncan, all these have now closed their long and useful lives; but the ardour with which anatomy, botany, and other branches of medicine, are well known to be pursued in Edinburgh, sprung originally from them, and the benefit ought to be had in eternal remembrance." Thus the account of the "recent improvements" is made to embrace a period of time commencing about a century back, and to terminate probably five centuries hence, "when an improvement *will be* effected which will materially change the whole face of medicine,"—a somewhat ingenious description of the doctrines actually taught in modern times in our medical schools!

When this writer speaks so pointedly and boldly of the great renown and excellence of the medical school of Edinburgh, does he know that the curriculum for students in medicine embraced no notice of dissections of the human body until the year 1823? Does he know that up to that period, and even since, the examinations for the medical diploma were far more loosely conducted, were more superficial and more vaguely theoretical, than are the examinations in the same branch of study as at present instituted by the learned hags of rhubarb hall? Enough of this. Edinburgh, at the period to which he has referred, unquestionably boasted of several celebrated teachers of medicine; but the place in reality was a mere manufactory of doctors.

Almost any dunce, ever so great a blockhead, could obtain the diploma, though a few only, by constant and diligent attention in the wards of the Royal Infirmary, accumulated those materials which enabled them to practise medicine, without committing the crime of professional murder. If the writer of the paper in the *Journal of Education* be a medical man, quite certain are

we that he is not noted by his friends either for his power of drawing correct inferences or that of making shrewd and accurate observation. England has been literally pestered with "doctors" of Scotch manufacture. When the DUNCRAY system was in the height of its glory, the general practitioners of this country were open to daily mortification and insult, and could scarcely attend a patient suffering from a raging tooth, or an aching finger, without being annoyed and insulted by the question,—"Would you object to my having further advice, Sir? Would you object to my sending for Dr. Dun?"—this "Doctor" probably possessing his diploma from one of the Scotch universities, where he had been examined theoretically, and not practically, and never having witnessed a hundred cases of disease in his whole life, while the practitioner thus insulted may have been an aged person, with his brows over shadowed by grey locks, and his mind richly stored with the results of thirty years' experience.

Next, we are informed, "that in proportion as Glasgow and Dublin possessed, and possess, the advantages which were, and are, enjoyed by Edinburgh, the medical schools of those places also flourished and still flourish, while London long stood still—*a mere school for general practitioners or for apothecaries.*" If, to use the elegant and appropriate phraseology of this writer, "London long stood still," with whom rested the fault? Why, surely, with the teachers, the governors of our hospitals, and the heads of our medical and surgical colleges. Are these bodies denounced, then, by this penetrating observer of the "recent improvements of medical education?" Certainly not. For he has omitted all notice of their infamous conduct, with the most marked and guarded silence.

This abandonment of duty in a writer who has attempted to instruct the junior branches of the profession in the circumstances connected with the recent improvements in medical education, is utterly inexcusable, and indicates a deficiency of knowledge, or a want of candour, wholly unpardonable. Instead, however, of the medical school of London having been the dark and odious chaos which he would represent it, as compared with that of Edinburgh, towards the close of the eighteenth century, and the by-gone portion of the nineteenth, it was the only school, with the exception of Dublin, in which anatomy was constantly taught by actual demonstration of the dead body. It contained, in truth, the only schools wherein students could acquire a competent knowledge of their profession; nor can it be denied, that nine-tenths of the Scotch diplomatists who may have acquired success and celebrity in practice, received all the really useful and substantial portions of their knowledge in the medical establishments of London. Young gentlemen did not visit the northern universities with the expectation of acquiring a knowledge of disease, but with the prospect of purchasing—by means of a short residence, a slight application to study, and a heavy expenditure of money—the, to them, important title of "Doctor." If the London schools were actually in the deplorable condition which our author has pronounced them to have been, it appears, from what he afterwards states, that they were quite worthy of their visitors, or their visitors worthy of them; for he says—

"The London students intended, *for the most part*, for the *inferior walks of the profession*, confined in their circumstances, and almost uneducated, were sent to London by those who could often but ill afford the expense, to obtain, in the course of a few months, all the knowledge of their profession, except what they had gained in a long and servile apprenticeship. Taken from school perhaps at thirteen years of age, and consigned, for seven long years, sometimes to a self sufficient and tyrannical master, such unfortunate youths were kept during all the years when they were ripening into manhood, and when perhaps every feeling of ambition was kindling in their minds,

in the prison of a back shop in the country, among larger coloured bottles to make up a show, and lesser ones which they were diligently taught how to fill and how to cork. * * * If the master happen to be a *little better than the* GENERALITY, his apprentice had the indulgence of poring over some ancient book of general anatomy, illustrated by a dilapidated skeleton. Thus prepared, he comes, at length, to the first burst of his freedom, from the darkness of his seven years' servitude to the light of the great metropolis."

Surely we trace here both the impotence and the venom of a BAT; but, in order to judge of this person's capability for writing on the subject which he has selected for the exercise of his mental prowess, namely, the "recent improvement of medical education," let us extract a passage in relation to apprenticeships, at page 10:—

"The *hurtful system of apprenticeships* has undergone much *mitigation*; and time is afforded for education to be acquired at school, and as well as, in many instances, for improvement afterwards during the years of apprenticeship."

The insult offered to the great body of English surgeons in general practice in the first of these extracts, can only be equalled by the gross, the rayless ignorance, which is so prominent in the last. Instead of the "hurtful system of apprenticeships" having "undergone much mitigation" in the "recent improvement of medical education," it is a fact well known to every person at all connected with the practice of medicine, with the exception of the writer in the *Quarterly Journal of Education*, that the system of medical apprenticeships remains precisely as it was instituted by the act of 1815, which, so far from being an improvement upon the old system, makes that servitude compulsory, which before was only adopted in accordance with the capacity of the student, and the disposition of the parent or guardian. The seven years' apprenticeship, or the six years' apprenticeship, or the four years' apprenticeship, was optional up to 1815, but from that period no man has been entitled to his license to practise as an apothecary, without serving an apprenticeship of five years, at least; and this is what our intelligent journalist calls "a *mitigation* of a hurtful system!"

What object the writer had to attain by indulging in the use of such coarse and disrespectful terms towards general practitioners, we cannot possibly divine. Ignorance, we presume, must be pleaded as his excuse in this, as in several other instances of error, vulgarity, and misrepresentation. Students who enjoy the opportunity of passing some years with country practitioners of extensive practice are often better qualified to undertake the duties of physicians or surgeons, than many of those young men who pass several years in sauntering about the squares and passages of our metropolitan hospitals. Few persons can believe the neglect with which pupils are treated in many of the lecturing establishments. In fact, a knowledge of medicine cannot be communicated by lectures, and he alone is conversant with the details of practice, who has witnessed disease at the bedsides of the sick.

But what does our doughty author mean by saying that the London students were intended for the most part for the *inferior* walks of the profession? What, we repeat, does he mean by the term "inferior walks of the profession?" He will not, of course, afford a candid reply to this question, though it is quite evident that he points to the path of duty followed by surgeons in general practice. There is something monstrous in dividing diseases and the treatment of human maladies into *superior* and *inferior* walks,—so monstrous, indeed, that the idea could have had no other origin than the dull brain of a BAT. Intelligence in the science of medicine elevates its possessor to the highest pinnacle of honour. If he descend from such a seat of glory to confer benefits on the poorest members of society, does such conduct deserve to be stigmatised as a move-

ment fitted only to be designated as the "inferior walks of the profession?" There is, however, as much of injustice as of insult in this gross allusion to general practitioners; for their attainments as practitioners in medicine pre-eminently entitle them to the confidence of the public, and to all the respectful attention that can be displayed towards the most essentially-useful members of the community.

A Dun possessing a purchased title, according to the medical nomenclature of this writer, belongs to the higher walks of the profession, while a general practitioner, whose title is his usefulness, belongs to the "inferior walk,—confined in his circumstances, and almost uneducated."

Having, under the sanction of the "Useful Knowledge Committee," withheld all knowledge of the misdeeds of the medical corporations, in relation to the "recent improvements in medical education," such a writer as this of the *Quarterly Journal*, is entitled neither to attention nor to courtesy; and the committee, by presenting to the public such papers as the one we have noticed, have shown but too clearly, that they are entitled to only a very small portion indeed of the confidence of the public.

That direful epidemic the pestilential cholera is spreading its ravages from one extremity of England to the other. Nor is it less fatal in several parts of Ireland. Yet notwithstanding the vast exertions, mental and bodily, of medical practitioners, we are still left to seek for remedies for this awful scourge to the human race. The returns from some parts of the country swell out the catalogue of the afflicted to a prodigious and frightful number, and the mortality continues to progress everywhere in a proportion of rather more than one-third of those who are attacked. But are we to stand aghast and refrain from further exertion, because we have hitherto failed to discover a cure for this distemper? Are we to shut up the senses, to closet the understanding, to refrain from seeing and reflecting on all the circumstances connected with the appearance and course of the disease? Science and humanity aloud forbid it. It is the duty of practitioners in medicine to watch, to investigate, and to publish, the results of their inquiries. Collections of facts bearing upon habits of life, age, temperament, premonitory signs, description of food, situation of dwellings, are all of the highest importance in drawing general conclusions, as to the utility of certain modes of practice. The most trifling symptom should not be overlooked. A shadow of a shade, even, should not be disregarded in such all-important statistical reports.

While we record with apprehension and alarm the dreadful destruction which the cholera still continues to cause in the country, we are enabled to state, from the best sources of information, that its effects in the metropolis are not on the increase, but are declining. Still it is much to be feared that the inhabitants of London have yet to receive a last visit from the pestilence, and, under such a supposition, is it too much to implore all those individuals who command the means of acting like rational and intelligent creatures, to abstain from any practice which may act as an exciting cause of the disease, or predispose the system to the destructive influence of the baneful poison. The avoidance of extremes, as relates to food, drink, and exercise, cannot be too strictly enjoined; for although it is indisputable that many persons apparently in perfect health are attacked by the pestilence, yet in almost numberless instances, it appears to have darted upon individuals whose health had been deteriorated from the normal standard, by excess of some kind or other. In noticing the cases which may fall under their care, we once more entreat surgeons, physicians, and apothecaries, to note down

every the minutest symptom which may present itself in the disease, and to record with scrupulous nicety every circumstance connected with the condition of the patient, within a reasonable period preceding the hour of attack.

WESTMINSTER HOSPITAL.

PHLEGMASIA DOLENS IN THE MALE.

Thomas Wicks, a sailor, twenty-three years of age, was admitted under Dr. Bright, 20th of June ult. He has led a seafaring life for nine years. His health was perfectly good until about a half year ago, when he had syphilis in a severe form, and was treated for it in the hospital at Malta. On going back to his ship he caught cold, and was obliged to return to the hospital with pain of chest, cough, and expectoration. He did not completely recover whilst in the Mediterranean, and returned to England two months since, and has been under the care of a medical man at Edmonton. He is a stout, well-formed lad, with a well-developed muscular system, and a plentiful adipose covering, but the entire surface has a pale lardaceous hue. He was treated with blisters and other medicaments whilst at Edmonton, but without much benefit. He complains now of great pain, increased on pressure, and tenderness across the upper part of abdomen. He has had much nausea, and has vomited a considerable quantity of greenish fluid; he has also been much purged. The bowels are open at present; the tongue is furred; pulse 70, full, and soft. Passes freely his urine, which is high-coloured; and his skin is moist and warm. *A calomel and rhubarb bolus at bed-time, and an aperient dose in the morning. A saline mixture every four hours.*

23. The pain and tenderness of abdomen have abated; the tongue is slightly furred; the bowels freely open; no nausea; pulse natural.

26. The pain of bowels has entirely subsided; a dull ache is perceived across the loins. The chest is perfectly healthy; tongue clean; bowels open; micturition free; pulse 82, feeble; appetite reviving; continues the saline mixture.

28. Great tumefaction; pain and tenderness have rapidly come on in the left thigh and leg. The tumefaction is general over the limb, but the pain and soreness are most marked over the course of the femoral vessels. Pulse 90; bowels open; tongue furred. To be cupped to eight ounces on the inside of the thigh, and to continue the saline medicine.

29. The patient declares himself relieved by the abstraction of blood; the swelling of the limb is less, but the pain of thigh is undiminished. The whole limb is extremely tense and sore, and the leg is a little œdematose; pulse full; tongue clean; bowels open. Venesection to twelve ounces, and two tablespoonfuls of the following mixture to be swallowed every four hours. Take of

Antimonial wine, one ounce;
Sulphate of magnesia, one ounce;
Camphor julep, six ounces. Mix.

Fomentations of poppy-heads to be assiduously applied.

30. The blood drawn from the arm is neither buffed nor cupped. The tumefaction and tension have abated, but the pain is undiminished. Pulse 86, full, soft, and regular; tongue clean, and bowels open.

July 1. The pain is relieved by the fomentation. The limb is still swollen; the pain is most acute in the groin, extending upwards along the iliac, and downwards along the femoral vessels; pulse 98. Continues the remedies.

2. Has still pain, especially on moving the limb; he cannot bear pressure over any part of the femoral vein; tongue furred; bowels open; secretion of urine diminished; pulse 100, rather hard; countenance anxious; twenty leeches to be applied to the groin, and subsequently fomentations.

3. Pain not so severe; swelling less; the pain is principally felt in the groin, and in the ham; secretion of urine scanty; pulse 102, feeble; countenance less anxious; bowels open.

4. The pain greatly increased along the course of femoral vessels last night, and was relieved by the application of twenty leeches. There are still pain and soreness of thigh, and particularly in the popliteal space, this last is augmented by any attempt to straighten the limb; tongue flabby, exsanguous, and slightly furred; pulse 100, feeble.

6. No very material alteration. There is no great difference in the size of the two limbs, except in the circumference of the upper part of the thigh, where the affected limb is by much the larger, and at the ankle, where a relative difference of size exists; bowels open thrice daily; stools liquid; urine more copious, and of lighter colour; pulse 104, regular, feeble. Twenty-four leeches to be placed on the inside of the affected thigh.

8. The limb is much the same in appearance. Twenty-four more leeches applied.

9. The patient imagines the pain is increased by the use of fomentations. An

evaporating spirit lotion is consequently substituted.

12. Pain and swelling nearly in *statu quo*. The redness and tension are perhaps a little diminished; the foot and ankle are œdematose; tongue pallid and flabby; bowels freely moved; pulse 100, tolerably full.

14. The pain, redness, and tumefaction, have rapidly diminished since the use of the spirit lotion. Tongue clean; bowels open; pulse 88.

17. The limb is perfectly easy whilst the patient remains quiet, but in the slightest attempt at motion, the pain returns as severely as ever. Tongue clean, but flabby; bowels open; pulse 80, full.

18. The patient was seized with rigors about an hour ago, and still continues shivering. The limb, too, has rapidly swollen since that time, particularly in the groin, and he cannot bear the slightest touch; tongue furred; bowels open once; pulse 120; twelve leeches to the groin; ten grains of Dover's powder exhibited immediately.

Eight o'clock p.m. Pain relieved by the leeches, but the swelling remained unreduced; the pain, however, returning as severe as formerly. Venesection to 16 ounces was had recourse to, and proved effectual in removing the pain.

19. The limb has remained easy since the venesection, but the intumescence has rather increased. Erysipelas has made its appearance in the leg from the foot to the knee, and appears to be occasioned by the leech-bites. Tongue pallid; bowels open once; pulse 102, full and hard. A strong purging draught with alkali to be given; to continue the antimonial mixture.

20. The erysipelas is subsiding; swelling of groin smaller; pain less severe; tongue furred; pulse 80, full and soft; countenance cheerful; to repeat the alkaline purge.

23. The swelling in the thigh, and the erysipelas in the leg, are gradually disappearing; tongue clean, but flabby; bowels open; pulse 84, full. The patient can move the limb without pain. He sleeps well, and his appetite is reviving.

24. A resuscitation of the erysipelas on the dorsum pedis; bowels constipated; the thigh is still rather tumefied, but there is no pain; six leeches to be applied to the foot, and an alkaline purging draught to be swallowed immediately.

Aug. 3. The erysipelas has nearly gone; the tumefaction still unremoved; the pain and inflammation have subsided; the emunctories apparently act well, but the *ensemble* of the patient presents an unhealthy leucophlegmatic character.

10. The patient's general condition has improved; his appetite is good; the pain and tumefaction of thigh-bone abated, and are scarcely appreciable, but the œdema of the leg has very much augmented. The use of the evaporating lotion is continued, and occasional purges are administered; his colour is slightly improved.

This is a case somewhat analogous to those described by Sir Henry Halford at one of the evening converzatione in the College of Physicians. The exciting cause, viz. the sudden application of cold, was the same, but in the present case no remarkable slowness or intermission of pulse has been observed, probably because no obliteration of the veins has taken place, although a suspicion of such a fact is excited by the increased œdema of the affected, and a certain hardness perceptible in the course of the femoral vessels. This is a circumstance, however, which remains to be proved by the subsequent history of the case.

LONDON HOSPITAL.

STRICTURE OF THE URETHRA, PRODUCED BY EXTERNAL VIOLENCE.

H. I., seaman, ætat. 34, was admitted into the hospital about three months since on account of difficulty in voiding his urine. The patient stated, that about ten weeks previous to his admission, he fell across a plank, which passing between his legs, struck the perineum violently, there was considerable hemorrhage from the urethra immediately after the accident, which was arrested by means of cold applied to the part, and he continued for some time to pass blood with his urine. In a short time he found considerable difficulty in passing his urine; this gradually increased. At the time of his admission the urine flowed in a very small spiral stream. There was a very firm stricture at the membranous portion of the urethra.

After considerable difficulty, Mr. Scott succeeded in introducing a catheter (No. 2) through the stricture into the bladder, which was kept in the bladder by tapes, and withdrawn at the expiration of two days, when the next size was introduced, continuing to increase the size every second or third day, each catheter being allowed to remain in the bladder until succeeded by a larger, until No. 12 was introduced with ease, and the man left the hospital with the obstruction apparently quite removed.

FRACTURE OF THE OLECRANON FOLLOWED BY ERYSIPELATOUS INFLAMMATION.

On the 26th May, H. L., a stout muscular man, about thirty-eight years of age,

came to this Hospital, and was admitted under the care of Mr. Scott, labouring under fracture of the olecranon, with erysipelatous inflammation of the arm.

He stated that about four days previous to his applying here, while walking on the pavement he fell down, and putting out his arm to save himself, fell with the point of the elbow on the stones; he thought very little of the accident, and continued to follow his employment; the arm was very painful, but not so much so as to cause him to lay by until the day previous to his admission, when it became much inflamed.

On his admission the limb was greatly swollen from just above the elbow-joint to near the wrist; the integuments of the swollen parts were at the same time of a bright-red colour, tense, and when touched excessively painful, there were also red lines extending in the course of the absorbents towards the axilla. Owing to the swollen state of the integuments the fracture was not so distinct, but the crepitus could be felt. The constitutional symptoms were severe; countenance anxious; face flushed; pain in the head; tongue furred; skin hot and dry; pulse 120, full and strong. Was ordered calomel and jalap half a drachm immediately; to take two grains of calomel every six hours, to have 30 leeches to the arm, and afterwards the spirit lotion.

27. Swelling of the arm not at all diminished; the pain is very severe; the inflammation is extending up the arm; bowels freely opened; pain in the head is not so severe; pulse full and strong; tongue less furred.

To repeat the leeches and continue the spirit lotion; continue the calomel.

28. Pain in the head much diminished, and the constitutional symptoms are much relieved, but the pain and tension of the arm are much the same as yesterday. To repeat the leeches, &c.

29. The arm continues very much swollen and painful, but the redness is rather diminished; his bowels are confined, and complains of pain in the head; skin hot and dry; tongue furred; to have a dose of calomel and jalap immediately.

30. Bowels freely opened by the powder; mouth affected by the calomel; the feverish symptoms present yesterday have subsided, but the local symptoms are much the same as on his admission. Mr. Scott considered it a fair case for incision, and consequently made three or four incisions with a scalpel the length of the part inflamed, and directed the arm to be enveloped in flannels wrung out of hot water, after which a linseed-meal poultice to be applied.

31. Passed a much more comfortable night than any since he has been in the hospital; the pain in the arm is much relieved, and the redness on the anterior part of the fore-arm considerably less; the swelling around the back part of the fore-arm, elbow, and lower part of the upper arm, much the same as yesterday; bowels open, tongue clean; pulse soft and compressible; to have three grains of the sulphate of quinine three times a day, and eight ounces of wine.

June 1. Had several hours comfortable sleep during the night; bowels open; tongue clean; the tension and redness of the arm much the same as yesterday. Mr. Scott made two incisions about six inches in length, commencing above the elbow through the inflamed integuments, and directed the arm to be again enveloped in flannels wrung out of hot water. To continue the poultice.

3. The arm decidedly improved; tension, pain, and redness, much diminished; pulse quiet; tongue clean; bowels open; in every respect doing well. To continue the quinine and wine, and to have a pint of porter in addition.

3. Sleeps well, and is free from any unfavourable constitutional symptoms; the arm looks well.

4. In every respect doing well.

6. Continues to improve, and spirits excellent; wished to be allowed to get up; bowels open; tongue clean; pulse good; the limb is nearly of the natural size. Mr. Scott ordered it to be gently rolled. To continue the quinine with the wine and porter.

12. Going on extremely well; appetite good; spirits excellent; bowels open; is allowed to walk about the ward with the arm in a sling.

19. Has continued doing well, and is about to leave the hospital at his own request to attend as an out-patient.

INFLAMMATION OF THE TONGUE.

J. A., weaver, ætat. 29, was admitted on the 29th of July, under the care of Mr. Andrews, labouring under inflammation of the tongue. The tongue is very much hypertrophied, so much so as almost to prevent the patient articulating; has considerable difficulty in deglutition, and there is a constant flow of viscid saliva. The patient has been in this state for about seven days, and cannot assign any reason for the attack; has not taken any mercury, or any other medicine, excepting a dose of salts, which he took the day previous to his applying here. The glands beneath the tongue are not much enlarged; he was ordered a blister to the throat, and to use the following gargle:—

℞ *Myrrhæ* ʒiss;
Aceti ʒij;
Aquæ ʒvj. *Ft. gargarisma*;
Calomel and jalap ℈j *statim.*

The following day he appeared relieved; the blister rose well; there was less salivary discharge; the powder opened his bowels freely.

Aug. 1. Going on well; his bowels not having been relieved, to take a dose of house-medicine.

3rd. The patient suddenly refused to remain in the hospital any longer, and under the pretence of taking a walk in the garden of the hospital, walked himself home. When he left the hospital he was much relieved.

NOTE FROM DR. LATTA.

To the Editor of THE LANCET.

SIR,—In the "index" on the cover of THE LANCET of August 4th, I was much surprised to see noted, "Quarrel between Drs. Latta and Craigie, of Leith," which, by the *accompanying statement*, is represented as having originated in consequence of Dr. Craigie not mentioning me in his newspaper communications as having first practised venous injection. Now all this is quite a mistake. In the first place, *the quarrel* is not mine, but Dr. Craigie's and Mr. Mitchell's, and originated, not from any complaint on my part, but in consequence of Dr. Craigie applying to a remark made by Mr. Mitchell, the offensive terms of "utterly false." As for my name being coupled with venous injection, that is an honour I have not been remarkably fastidious about. Nay, the good Doctor mentioning me at all in his lucubrations, is what I did not look for, the omission, therefore, could not be the ground of very serious quarrel.

The matter is too insignificant for you to revert to, or you would find I did not write to complain of the want of courtesy on this point, but was compelled to come forward in vindication of Mr. Mitchell's integrity (who, unknown to me, made the remarks in the *Observer* which called forth the Doctor's ire), and in defence of my own conduct and practice, both of which have been misrepresented in Dr. C.'s pamphlet.

I have the honour to be, Sir,
Your most obedient servant,
THOMAS LATTA, M.D.

Aug. 8, Leith, 1832.

DR. AYRE'S LETTER.—Dr. Ayre has requested us to add the following note to *Rosanna Curry's* case, page 616. As it reached us, however, too late to be appended to the case itself, we insert it here: "The unusual quantity of the medicine given in this case arose from two causes; first, from a mistake in intermitting the medicine during some hours when the urgency of the symptoms rendered its continuance most important; and, secondly, from an officious friend giving her some orange, when the disease, which was subsiding, relapsed into all its violence."

CORRESPONDENTS, &c.

"MR. EDITOR,—Can you inform me if medical officers of the army and navy, who entered the public service before 1815, are entitled to practise and recover their bills by law, *as apothecaries*, without undergoing any examination at old Rhubarb Hall?"—They are not entitled to practise as apothecaries, and consequently cannot recover the amount of their charges. The "Declaratory Act" of 1822, was passed in order to remedy this gross and flagrant injustice, but as it was enacted for only one year, naval and military surgeons are left in the same unprotected state as they had been in from 1815. The laws relating to practitioners in medicine will never undergo any really beneficial change, except through the interference of the LONDON COLLEGE OF MEDICINE, and every physician or surgeon who may be the victim of the existing defects in our statutes, becomes, by withholding support from that institution, the voluntary instrument of his oppression, degradation, and poverty.

Jachin is not legally qualified, and could only be admitted on examination.

A Care-worn Student.—This part of our journal does not admit of the insertion of such a lengthened notice as a full reply to his question requires, but if he will obtain a copy of the regulations, to be had at the Company's Hall, he can ascertain all that he wishes to know.

A Medical Pupil.—Such an occurrence is, we imagine, impossible. From very trifling causes, such as the mere shutting of a drawer by slight pressure on the thigh-bone of an aged person, an accident of the kind may take place, but not during "*perfect* quietude."

M. S.—Gregory's "Practice of Physic" is the best elementary system he can study. By-and-by he may read Abercrombie on the Head and Abdomen, and Laennec on the Chest. He may finish with the recondite Mason Good.

ERRATA.—Dr. Girdwood's paper on Venous Injections, in No. 467.

The paragraph at the end of Case 4, page 595, beginning "Continual vomiting," &c. should be transferred to Case 5, and come in five lines from the bottom, directly after the words "the collapse was very great."

Page 595, col. 2, lines 17, 18, for "and she wasted in flesh," *read* "used in washing flesh." Lines 19, 20, 21, alter the word "all" to "until," and transpose the sentence "No urine was passed until the day after the bleeding," to line 44, and place it after the words "She is now out of danger."

Dr. Girdwood's address is "Paddington," not "Islington."